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Transitions

Research Paper 2 – First-Generation Students: A Promising Concept?

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Transitions

Research Paper 2 – First-Generation Students: A Promising Concept?

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The Canada Millennium Scholarship Foundation

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Executive Summary

The influence of parents' level of schooling on the education of their children is a topic of interest in education research, even if only to analyze the effects of how culture is passed on from one generation to another. The studies on the subject generally consider parental schooling on a continuous (i.e., the number of years of schooling) or semi-continuous (i.e., the level of schooling or degree) basis. Some researchers have put forward the concept of "first-generation students" (FGSs). Their work is conducted from a different perspective, because they consider parental schooling as it affects two broad categories of students: FGSs, whose parents have no post-secondary experience, and the rest of the student body, whose parents have pursued higher education.

This research paper is a critical summary of the scientific literature dealing with the FGS concept. It was produced with two aims in mind. First, we looked at whether a parental schooling threshold can be identified beyond which significant differences exist regarding access to and continuation of post-secondary studies. Second, we studied how FGS status affects the educational experience. In other words, does being an FGS influence the path taken through education? Or, instead, is that path influenced by the sociodemographic characteristics that generally impact people's access to and experience in post-secondary education (among other things, low family income or membership in a particular cultural community)?

The FGS concept comes from the United States, where it was first used at the administrative level as an eligibility criterion for federal access and outreach programs. The definition used by such programs is quite inclusive, as all students whose parents do not have college degrees are considered FGSs.

Researchers have also used the FGS concept for some 20 years. In most of the American scientific articles, an FGS is a student from a family where neither parent attended a post-secondary institution

(this being the strict definition). Most researchers say that when one parent has attended college or university, that is enough to acquire both familiarity with post-secondary education and a certain amount of social and cultural capital that facilitates their child's entrance into post-secondary education. It is harder to define the "non-FGS" comparison group made up of all other students, since different authors describe this so-called "traditional" group in different ways, depending on the level of parental schooling or the number of parents with post-secondary schooling.

To analyze the concept of FGS, we considered two major components of a student's career: access to post-secondary education and the educational experience. The access process is complex and can be analyzed in different ways. In our case, access means the match between individual choices and institutional selection procedures. As for educational experience, we analyzed it as a function of attendance at post-secondary institutions and the student's progress (persistence and performance). In our analysis, we also tried to factor in the types of institutions that FGSs attend (community colleges/university colleges) to see whether an institutional effect exists.

The studies show that FGS status has a real effect on access to post-secondary education. Lack of parental experience would therefore be a significant barrier. However, there are some protective factors—such as taking advanced math courses in high school, having parents who are involved in their child's school life or obtaining help from high school—that can make the transition easier. In addition, the effect of FGS status is less clear with regard to the type of institution chosen. Although some studies show that FGSs are more likely to enrol in community colleges, others indicate that FGSs have the same educational aspirations as their classmates. It should also be stressed that most of the studies on FGS access to post-secondary education only offer a partial picture, since they look retrospectively at the access process of

students who have already made the transition to higher education.

There are more studies on FGS experiences in post-secondary institutions than on their access to those institutions. Our review of the literature revealed differences between the experiences of FGSs and non-FGSs at the post-secondary level. But the differences fade if the “non-FGS” category is broken down, and it appears to have variable intensity depending on the dimensions of the educational experience. In addition, due to the variety of methodologies used in the studies, it is hard to pinpoint the components of educational experience that are influenced by FGS status. A real effect of FGS status on academic persistence and success can be noted, but it is impossible to fix the actual significance of that factor within the overall explanation of students’ progress. We can only remark that its influence gets weaker as FGSs continue through college, hinting at a resilience effect.

Some theories explaining academic and progress inequalities may be of interest in understanding the effect of parents’ level of schooling on the schooling of their children. Cultural explanations argue that

the transmission of parents’ cultural and academic heritage to their children leads to a repetition of social inequalities. Individualistic theories posit that individual decisions, which are related to social origin, govern students’ access to post-secondary education. And the interactionist approach stresses the determining effect of successful integration within the college or university on students’ persistence. Lastly, the literature on unlikely academic paths reminds us that in order to understand the success of FGSs, we must consider the many elements other than parental schooling that influence access and shape the educational experience.

According to the American scientific and institutional literature, FGSs are considered “at-risk” students with regard to both access to and continuation of higher education. Although the concept has some empirical limits, it can still serve as an indicator for monitoring accessibility policies. In light of current privacy policies, such a social benchmark could be very useful for decision-makers and help contribute to the ongoing monitoring of the accessibility of post-secondary educational systems.

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Introduction

Since the mid-20th century, greater access to post-secondary education has become not only an educational issue but a social one. In recent years, getting people to stay in school (“persistence”) has become an important strategic issue. Public discourse on the economy and the “knowledge society” has highlighted these issues, which have come to be seen as complementary. In Quebec, for example, the provincial government recently reformulated its definition of access to post-secondary studies to include access to studies to the point of obtaining a diploma (Government of Quebec, 1996). This new vision of accessibility puts more focus on students staying in school and makes institutions more responsible for their success.

In Canada, access to post-secondary learning institutions has been a priority since the 1960s. This political objective takes different forms in different provinces. Specific examples include: the reform of high school teaching, the emergence of new post-secondary establishments, investment in vocational colleges, the development of universities, periodic freezes on tuition fees, etc. (de Broucker, 2005; Fisher et al., 2005; Shanahan et al., 2005; Trottier et al., 2005). The various initiatives undertaken seem to have borne fruit, since in 2005 Canada ranked first among OECD countries for the proportion of people aged 25 to 64 who had completed post-secondary education (Statistics Canada, 2006). This swelling of student ranks indicates that the passage from high school to further studies is becoming the norm for a growing and diversifying body of students.

This means that “non-traditional” students are starting to occupy more space in Canada’s colleges and universities (Chenard, 1997). “Non-traditional” covers mature students, students from different ethno-cultural groups and *first-generation students* (FGS)—i.e., those who are the first in their immediate family to go to college or university.¹

The FGS concept was developed in the United States, where it is an administrative category in educational assistance and outreach programs and a theoretical notion in the literature. According to American research, FGSs have many disadvantages in terms of accessing and continuing higher learning. With their particular socio-demographic characteristics, FGSs are distinct from other students when it comes to academic preparation, college and university experiences, psychosocial development, etc. Their growing presence in the post-secondary education system presents some challenges to institutions, stakeholders and professors.

Many studies have been done on FGSs in the U.S. In Canada, there have been few. Despite the volume of studies on the subject, many aspects of the FGS concept still have to be clarified, including: Does being a FGS actually affect the student’s schooling (i.e., participation in and continuation of post-secondary studies) or is there an outside factor at work? How should we interpret the effect of such an outside factor on the student’s progress?

In this report we intend to study those questions based on a critical overview of those reports and studies that explicitly deal with FGSs. We will focus on the concept of FGS as it was originally conceived, taking a dichotomous view of parents’ schooling (secondary vs. post-secondary) rather than a continuous (years of schooling) or semi-continuous (level of schooling) view. This literature review is therefore not designed to study all of the work on correlations between parents’ and children’s schooling. Rather, we have concentrated on a smaller sample so as to be able to grasp the theoretical and methodological relevance of a particular concept.

We start by looking at the different definitions of FGS in the literature. Then we study the research on FGS that deals with: a) access to post-secondary education, and b) continuation and persistence. To the extent possible,² we have tried to carry out this

1. The definition of FGS varies from one author to another. See Section 1 for more details.

2. It was harder to make the distinction in the section on FGS access to post-secondary education, due to the limited number of studies on the subject and the sample composition.

overview by distinguishing between the different levels of Canadian and American post-secondary education (community colleges, university, overall post-secondary) so as to account for specific differences in attendance at each one. Lastly, we study

the way that the work on FGS explains the influence of parents' schooling on the academic progress of their children by applying the main educational sociology theories.

I. What is a First-Generation Student?

I.1. Origins of the First-Generation Student Concept

The literature on FGSs contains very little information on the concept's origin. Different sources we consulted indicate that FGS is used as an eligibility criterion for American federal TRIO programs³ that fund initiatives for equal access to education. Before 1980, as Hoyler (2008) explains, “each of the TRIO programs had different student eligibility criteria and no one could determine exactly how many people were eligible for TRIO.” Members of the National Coordinating Council of Educational Opportunity Associations (NCCEOA) set up meetings at the local level to deal with the problem. The FGS concept emerged in 1978 at an Iowa meeting addressing ways to identify non-financial obstacles to post-secondary education. The concept was first chosen as an eligibility criterion by the Midwestern NCCEOA, and then it was adopted at the national level. The NCCEOA proposed the FGS category to Congress as a way of targeting the population for the TRIO program. It was adopted and ratified in the 1980 *Education Amendments* (Hoyler, 2008).⁴

At around the same time, the concept of FGSs was being used by Fuji F. Adachi (1979) of the University of Wyoming Division of Student Educational Opportunity, in an unpublished study on the generational and socio-economic status of students admitted to Upward Bound, one of the TRIO programs (Logan, 2007: 8). According to Billson and Terry (1982), Adachi came up with the FGS definition used in the TRIO programs. He had noticed that the majority of students with low incomes were FGSs, but that the reverse was not true. Thus, Adachi wanted both criteria—FGS *and* low family income—to be used to determine students' eligibility for federal programs (Billson & Terry, 1982: 58, note 2).

Billson and Terry (1982) were the first researchers to use the FGS concept, and they published their findings in an article on the difference in dropout rates between FGSs and those who are second-generation students. Billson and Terry confirmed Adachi's claims (1979), emphasizing that the “low-income” variable was not statistically significant enough to account for attrition rates on its own (Billson & Terry, 1982: 58, note 2). In their research they noted that when they used the FGS definition from the TRIO programs,⁵ 72.2 percent of low-income students were FGSs, but only 20.7 percent of FGSs had low incomes (Billson & Terry, 1982: 58, note 2).

Despite all these technical details on the origins of the FGS concept in institutional documents or scientific research, the reasons why administrators and researchers chose such a category or concept for the student population are still unknown. That said, it appears that both the U.S. government and researchers see such students as a socially disadvantaged group that is underrepresented in post-secondary education institutions, just like students with handicaps, those from ethnic minorities or those with low incomes.

I.2 First-Generation Students and Outreach and Integration Programs

As we have already pointed out, FGSs fall into a category targeted by access and outreach assistance programs like TRIO (Engle, 2007). Most of them are FGSs from low-income families. Having started in the 1960s with three intervention programs, TRIO

3. From 1965 to 1968, the U.S. Office of Postsecondary Education created three assistance programs for access and progress in post-secondary studies. Since there were three, they are known as the TRIO programs (OPE, 2008).

4. This information comes from a personal email exchange between our team and Maureen Hoyler, executive vice-president of the Council for Opportunity in Education (which succeeded the NCCEOA), dated January 22, 2008.

5. Meaning students whose parents had not received undergraduate degrees.

now comprises six different programs.⁶ Of course, they are not all aimed at the same student populations: Talent Search targets students aged 11 to 27, while Educational Opportunity Centers and Veterans Upward Bound are for adults. The programs are usually run by post-secondary institutions for two or four years or by community centres, and they provide a range of services like summer courses and counsellors for career orientation and academic development. Although it is hard to assess such programs, the authors note that they all encourage people to stay in school (Engle, 2007; Walsh, 2000; PES, 1998).

Some post-secondary institutions have developed their own programs at the local level. At California State University Sacramento, for example, they have created the Educational Opportunity Program, which uses career counselling to encourage FGSs and other disadvantaged groups to stay in school (Ayala & Striplen, 2002). Another example of a local initiative is an Illinois community college that offers a summer program called Transition Class for FGSs who want to enrol at the college (Koehler & Burke, 1996).

1.3. Theoretical Variables for the First-Generation Student Concept

Due to the large amount of scientific research on FGSs, the concept has been developed on a theoretical level. As a general rule, these empirical studies have tried to gauge the influence of parents' level of schooling⁷ on FGS access, persistence and educational experience (both academic and non-academic). The literature on the subject is mainly quantitative, but there are a few qualitative studies (particularly London, 1996, 1992, 1989). Although the concept is more widely used in the U.S., there have been some Canadian studies on it (Berger, Motte & Parkin, 2007; Lehmann, 2007; Grayson, 1997).

The definition of FGS changes depending on the author and the concept's usage. At the administrative level, the FGS category is quite broad. For TRIO

programs, for example, an FGS is a student whose parents did not get a college degree. The definition therefore includes students whose parents have some post-secondary education but who did not obtain a degree. However, few researchers use that definition in their studies (see Dennis, Phinney & Chateco, 2005; Pike & Kuh, 2005; Ishitani, 2003; Naumann, Bandalos & Gutkin, 2003; Penrose, 2002). In most scientific articles, an FGS is someone who comes from a family where neither parent attended a post-secondary institution (this being the strict definition). Most researchers (Lohfink & Paulsen, 2005; Pascarella et al., 2004, 2003; Duggan, 2002) believe that the fact that one parent attended college or university is enough for that parent to know something about post-secondary education and to have acquired some social and cultural capital that can make it easier for his or her child to enter that level of study.

In spite of some variations, most researchers seem to agree on the latter definition. But defining "non-FGS" as a comparison group of other students seems more problematic. Many authors who opt for the strict definition of FGS do not define non-FGS clearly (Engle, 2007; Hahs-Vaughn, 2004; Maimor, 2003; Ayala & Striplen, 2002; Duggan, 2002; Toutkoushian, 2001; Brown & Burkhardt, 1999; Hodges, 1999; Inman & Mayes, 1999; Grayson, 1997; London, 1996, 1989; Terenzini et al., 1996; Riehl, 1994; Barahona, 1990). Others define non-FGSs as the opposite of FGSs—i.e., students who have at least one parent who has experienced post-secondary education (Lohfink & Paulsen, 2005; Penrose, 2002). Billson and Terry (1982) and Pratt and Skaggs (1989) use the expression "second-generation student." Pratt and Skaggs (1989) also use "continuing-generation student" to mean students who have at least one parent who went on to higher learning.

Among the researchers who rely on the strict definition of FGSs, some compare these against students who have at least one parent with a college degree (McCarron & Inkelas, 2006; Fallon, 1997). Although the strict definition does not include students who have a parent who attended college

6. These are: Upward Bound (and Upward Bound Math-Science) (1965); Talent Search (1965); Student Support Services (1968); Veterans Upward Bound (1972); Educational Opportunity Centers (1972); and Ronald E. McNair Postbaccalaureate Achievement Program (1986).

7. Due to the present-day expansion of traditional family boundaries, the word "parent" may have different meanings. However, the research we consulted did not specify how the authors measured parental education in single-parent families, expanded families or shared-custody situations.

Table 1: Summary of Definitions of First-Generation and Non-First-Generation Students

FGS Definition		Non-FGS Definition			
Neither parent attended a post-secondary institution (strict definition ⁸) / parents have a high school diploma or less ⁹		*			
		One parent or more with post-secondary experience ¹⁰ Second generation ¹¹ “Continuing-generation student” ¹²			
		One parent or more with a college degree ¹³			
		With college: one parent or more who attended college		With degree: one parent or more with a college degree ¹⁴	
		Moderate: one parent or more who attended college, and at least one parent with a degree (or higher)		High: two parents with a college degree (or higher) ¹⁵	
		With college: one parent or more attended college	With degree: one parent or more obtained a college degree	With graduate school: one parent or more obtained a master’s degree or doctorate ¹⁶	
One parent or more with a junior high school diploma	One parent or more with a high school diploma	One parent or more with a community college diploma	One parent or more with a university degree	One parent or more with a graduate degree ¹⁷	
Two parents with a high school diploma or less	At least one parent attended a post-secondary institution but did not obtain a degree	One parent obtained a college degree	Two parents obtained a college degree ¹⁸		
Neither parent obtained a degree (administrative definition) ¹⁹		One parent or more with a college degree ²⁰ Second generation ²¹ “Continuing-generation student” ²²			
Neither parents nor siblings attended college for more than a year		Second generation: one parent or more who attended college for more than a year ²³			

8. Engle, 2007; Government of Ontario, 2007; Hahs-Vaughn, 2004; Ayala & Striplen, 2002; Duggan, 2002; Choy, 2001; Toutkoushian, 2001; Brown & Burkhardt, 1999; Hodges, 1999; Inman & Mayes, 1999; Grayson, 1997; Terenzini et al., 1996; London, 1996, 1989; Riehl, 1994; Barahona, 1990; Billson & Terry, 1982.

9. Maimer, 2003.

10. Lohfink & Paulsen, 2005.

11. Pratt & Skaggs, 1989; Billson and Terry, 1982.

12. Pratt & Skaggs, 1989; Penrose, 2002.

13. McCarron & Inkelas, 2006; Fallon, 1997. Fallon (1997) defines FGSs as the first in their families to attend college. She compares them in her study to non-FGSs, who are defined as students with parents who have college degrees.

14. Chen & Carroll, 2005; Choy, 2001; Warburton et al., 2001; Horn & Nunez, 2000; Zalaquett, 1999; Nunez et al., 1998.

15. Pascarella et al., 2004, 2003.

16. Tulsa Junior College, 1995.

17. Lee et al., 2004.

18. Ishitani, 2006.

19. Dennis, Phinney & Chateco, 2005.

20. Ishitani, 2003.

21. Pike & Kuh, 2005; Naumann, Bandalos & Gutkin, 2003

22. Penrose, 2002. She also uses the strict definition of FGS.

23. York-Anderson & Bowman, 1991.

without obtaining a degree, these authors give no reasons for their choice.

Researchers at Tulsa Junior College (1995) followed the study cycles of the post-secondary system and divided their sample into four categories: students whose parents had no post-secondary experience (FGSs); students with at least one parent who attended college; students with at least one parent with a degree; and students with at least one parent with a postgraduate degree. Lee et al. (2004) set up their sample in much the same way, although they make a distinction in the FGS category between students whose parents got a junior high school diploma and those whose parents graduated from high school. They do not explain why they did this.

Other studies, including those of the National Center for Education Statistics (NCES), use the strict FGS definition but make a distinction in the comparison group between students with at least one parent who attended college without getting a degree²⁴ and those with at least one parent with a bachelor's degree or higher (Chen & Carroll, 2005; Choy, 2001; Warburton et al., 2001; Horn & Nuñez, 2000; Zalaquett, 1999; Nuñez et al., 1998). The distinctions among the various categories of students are thus ranked in terms of their parents' post-secondary experience. From this perspective, the studies generally show more similarities than differences between FGSs and those whose parents went to college but did not get degrees. Warburton et al. found that “the lack of significant differences between first-generation students and students whose parents had some college education is partly due to high variability in the some-college group” (Warburton et al., 2001: 3, note 1).

Pascarella et al. (2004, 2003) use the strict definition of FGS and also have two categories of non-FGS. But they believe that the number of parents with post-secondary degrees is the main distinction between non-FGSs, who are therefore ranked as “moderate” or “high.” A “high” non-FGS is one who has two parents with undergraduate degrees or higher, whereas “moderate” non-FGSs have at least one parent who attended college but at most one parent with a bachelor's degree. The authors justify

this split by stressing the importance of creating smaller groups in order to make significant comparisons with FGSs: “We were concerned, however, that this might be too global a grouping of ‘other college student’ to detect many of the general or conditional impacts of different levels of parental post-secondary education” (Pascarella et al., 2004: 255–6). Research by Pascarella et al. indicates significant differences between FGSs and “high” non-FGSs. The findings with regard to “moderate” non-FGSs are less clear, since the latter resemble both “high” non-FGSs and FGSs depending on the variable used. Ishitani (2006) uses categories similar to those of Pascarella but with certain nuances: he divides the FGS category into those whose parents never went to college and those with at least one parent who attended but did not get a degree. Ishitani also distinguishes non-FGSs with one parent with a degree from non-FGSs with two parents with degrees.

York-Anderson and Bowman (1991) follow an original FGS definition based on the schooling of both parents and siblings. A student is considered an FGS if neither parents nor siblings have attended college for longer than a year. Conversely, these authors use “second generation” for students with at least one parent who attended college for a year or more. To justify the fact that family members of FGSs may have post-secondary experience without affecting their FGS status, they say: “It seems unlikely that college attendance by neither parents nor siblings for less than a year allowed them to glean enough college knowledge to pass on to others” (York-Anderson & Bowman, 1991: 116–7).

1.4. First-Generation Students in Relation to Parents' Education

The term “FGS” may seem surprising to anyone who has followed the research on correlations between parents' level of schooling and their children's. First, “FGS” seems to be just a different way of classifying students in terms of their parents' schooling—i.e., the level of high school reached.²⁵

24. This category includes students whose parents got diplomas in two-year study programs such as vocational certificates or associate degrees (Horn & Nuñez, 2000: 5).

25. In cases where the strict FGS definition is used.

The question is whether that particular social status—having parents with no post-secondary education—is fundamentally different from other family situations where there is some post-secondary schooling. In other words, is there a threshold effect, beyond which access to and persistence in higher education will be significantly different?

Schooling is usually studied as a continuum or semi-continuum, depending on whether it is measured in terms of years of schooling completed, degrees obtained or education level reached. It is treated as a continuum when looking at the number of years of schooling completed. When looking at degrees obtained or the level reached, schooling is treated as an ordinal variable, reflecting the organization of modern educational systems.

Educational systems are generally divided into three major numbered but discontinuous levels: elementary, secondary and tertiary (post-secondary).²⁶ These levels are more or less heterogeneous. The most heterogeneous is the post-secondary sector which, depending on the country, includes a whole variety of institutions and programs with widely differing missions and objectives; there are also differences in the educational missions and the way they are administered. For example, secondary and post-secondary education models do not have the same learning goals, the same content or the same management structures (institutions in charge of admissions, enrolment, etc.).

In Canada in particular, colleges are not the same as universities. Some provinces also distinguish between colleges offering pre-university courses and those offering vocational or professional training. In some studies a distinction is drawn between bachelor's-, master's- and doctoral-level university studies. Students generally go straight from high school to post-secondary education, but there is a chance of at least one discontinuity, such as a person who did not graduate from high school being admitted to post-secondary courses as a mature student, where work experience may be taken into account. Depending on the Canadian province, students go either directly from high school or via a pre-university college, which is another type of discontinuity. Lastly, the most

flagrant instance of discontinuity is that of going from a professional training college to university, because that type of college program was not designed to lead to university, even if the field is the same and there is a logical progression.

Most research on the impact of parents' schooling on that of their children focuses on the two major levels of schooling: secondary and post-secondary. Some studies make a distinction between colleges and universities within the post-secondary category; still others make a distinction between having started post-secondary studies and having completed them.

The FGS variable or concept is a theoretical concept based on the idea of a dichotomy between secondary and post-secondary schooling on the part of parents. That suggests that the educational levels have both an institutional and an educational structural effect on the individual schooling of parents, which creates a qualitative difference between the experience of those who did not receive post-secondary education and the experience of those who took (and even completed) post-secondary studies. It means that the difference lies not only in the number of years of study or the ranking of institutions but also in the social, cultural, educational and administrative structural effects that form character.

As we have already seen, American studies on FGSs have introduced nuances into the variable's definition to account for what seems to be an effect of degree. These studies (Chen & Carroll, 2005; Pascarella et al., 2003, 2004; Warburton et al., 2001) indicate that students with at least one parent who attended college sometimes more strongly resemble those students whose parents finished high school at best (FGSs) than those from families with at least one university graduate. The most significant results come from comparisons between FGSs and students with at least one degree-holding parent. For example, Horn and Nuñez (2000) find that the effect of parents' schooling on their children's access to post-secondary education is more negative when FGSs are compared to students with at least one degree-holding parent than when FGSs are compared to those whose parents started post-secondary studies but did not necessarily graduate.

26. Some authors even use the term "quaternary" to describe adult education.

This type of “degree effect” does not deny the different natures of the three major education levels, because it is located within the post-secondary level. That said, our review of the literature on FGSs will show whether what seems to be a degree effect leads to nuances in the suspected threshold effect behind the FGS category or whether it merely masks the absence of such an effect.

1.5. How Being a First-Generation Student Affects Studies

Although the literature shows a tendency to favour the strict definition of FGS, there is no consensus as to the concept’s meaning. Some authors use the more inclusive administrative definition of FGS, while others, such as York-Anderson and Bowman (1991), stand apart and suggest a definition that includes not only the parents’ schooling but also that of siblings.

In addition, studies on FGS status usually involve comparisons with the rest of the student body, sometimes called “second-generation” or “continuing-generation” students. That category means different things, depending on what FGS definition the researchers choose. “Second-generation student” can mean a student with at least one parent who took post-secondary education (Billson & Terry, 1982), with one or more parents who took higher education for less than a year (York-Anderson & Bowman, 1991) or with at least one degree-holding parent (Pike & Kuh, 2005; Naumann, Bandalos & Gutkin, 2003).

This wide range of definitions for FGS, and especially for non-FGS, leads to some confusion in how to apply the FGS concept. As such, the manner

in which FGS status articulates itself on access and persistence is barely explored in the literature. Apart from Pascarella et al. (2004, 2003), few researchers explain why they base their distinction among categories of students on the schooling of their parents.

Compared to the rest of the student population, FGSs seem at a disadvantage in terms of their participation and experiences in post-secondary education. They have many characteristics in common, such as belonging to an ethnic minority, low family income and less academic preparation, all of which have negative effects on the pursuit of post-secondary studies. But can we affirm that the fact of having parents with no post-secondary schooling is the only factor that imperils FGS educational paths? Would it not be more appropriate to state that the impact of FGS status is the result of everything making up that variable, making it by definition a proximate variable—i.e., one that combines the effects of several characteristics?

1.6. Research Questions

This first stage of analysis of the concept leads to two fundamental questions:

- 1) Do the results obtained using the FGS variable lead to the conclusion that the dichotomy between FGS and non-FGS causes a threshold effect?
- 2) Can an actual effect be discerned from FGS status, or is it merely a proximate variable?

The two following sections, dealing with FGS participation in post-secondary studies and the college experiences of FGSs, will try to find answers to those questions.

2. First-Generation Students and Access to Post-Secondary Education²⁷

Defined strictly, access to post-secondary education means studying at that level. In a broader sense, access includes the whole passage through post-secondary studies until a degree has been earned. However, we prefer to differentiate between two temporal elements, one being access itself and the other being the continuation of studies, using the broader definition.

The research generally looks at access to post-secondary education from three perspectives: a) the proportion of people participating; b) distribution of social groups; and c) the processes and mechanisms that give rise to unequal participation within the subgroups.

The two first perspectives correspond to the types of access defined by Usher (2004). According to him, Type I refers to the number of students at the post-secondary level. There are many studies on the factors regulating that sort of access, in particular the level and sources of funding of higher learning institutions. Any society that aims at collective progress will want to increase that access. Type II refers to the categories of people who go on to post-secondary education. Some research has shown that access is less probable when family income is low (Corak, Lipps & Zhao, 2003; Drolet, 2005; Zhao & de Broucker, 2002). Other factors such as gender, region, the fact of living in rural or urban surroundings and family structure have an impact on participation in post-secondary studies.

The third research perspective focuses on the two dimensions of the process leading up to post-secondary access: the choices of individuals or their parents (school/institution aspirations, academic preparation, choice of institution) and the institutions'

selection processes. It is the interaction between those two dimensions that determines post-secondary participation.

This section deals mainly with FGS research that analyzes access from the third perspective. First, we shall look at FGS access to post-secondary education in the U.S. Then, we shall look at the type of post-secondary institution these students attend.

2.1. First-Generation Student Access to Post-Secondary Education in the United States

Horn and Nuñez (2000) analyzed a sample of 1992 U.S. high school graduates using data from the *National Education Longitudinal Study*. Although it is not a Canadian study (which is significant given the measurable impact of jurisdictional differences), it remains the most complete demonstration of the FGS variable and also leads to considerations of the causal mechanism.

Just over one-quarter of the 1992 high school graduates sampled consisted of FGSs. Half of them came from low-income families, compared to only one-third of students with parents who had some post-secondary education and one-tenth of students with parents who had college degrees. FGSs were also more likely to come from Hispanic or black families. Many correlations therefore have to be neutralized before a conclusion can be drawn. In that study, the authors calculated the proportion of high school graduates who enrolled in post-secondary

27. This section only contains data from U.S. studies. As far as we know, no Canadian study has expressly used the FGS concept in looking at the process of choosing a post-secondary institution or higher learning establishment.

in general or strictly in four-year colleges, within two years of graduating. They controlled for several variables,²⁸ including parents' schooling.

Even when the variables of school success, income, family structure and other related characteristics are controlled, FGSs were less likely than their peers to take part in activities to prepare for college admission and also less likely to enrol in college during the tracked two-year period. The gross percentage of FGSs who enrolled in a four-year college is only 27 percent, compared to 42 percent of students with parents who had at least started post-secondary studies and 71 percent of those whose parents had degrees. After adjusting for the co-variables, these likelihoods are 42, 44 and 51 percent respectively; the latter variation is statistically significant.

All other things being equal, students who completed the math program beyond level-2 algebra were more likely to enrol in a four-year college. In addition, other factors such as parental commitment to activities to prepare for college (such as talking about SAT/ACT exams and how to prepare for post-secondary studies and finding out about financial assistance) or the help provided by high schools in applying also increase the likelihood of going on.

These results suggest that one of the most serious barriers to FGSs participating in post-secondary studies is their parents' lack of experience of the transition from high school to higher education, since their own commitment or the school's commitment can partially compensate for that. The FGSs are therefore not suffering from an intrinsic and insurmountable disadvantage but merely a lack of information and role models.

This study does not allow an understanding of whether this level of explanation is exhaustive or whether there might be other components or mechanisms. An analysis of the progress of FGSs who enrol in post-secondary studies could perhaps shed some light on the question. We shall also study the various theoretical issues in greater depth.

2.2. Type of Post-Secondary Institutions That First-Generation Students Aim for in the United States

Berkner and Chavez (1997) state that 77 percent of FGSs plan to enrol in a four-year post-secondary program, compared to 15 percent who plan to enrol in a two-year program. But thoughts do not always lead to actions. Based on the data from the post-secondary entrance cohort in 1989-90, Nuñez et al. (1998) found that when it comes to enrolling, American FGSs are more likely to attend establishments offering two-year programs (51.2 percent) than four-year programs (28.8 percent), private commercial establishments (15 percent) and other establishments offering programs of less than four years (five percent). Horn and Nuñez (2000, Table 9; reprinted in Choy, 2001), found that in a sample of high school graduates in 1992, 26.9 percent of FGSs went on to enrol in a four-year college and the same proportion (27.3 percent) in a two-year college. However, those gross percentages do not take related influences into account. When we compare the percentages as corrected for the series of co-variables listed above (see note 12), the Horn and Nuñez results (Tables 20 and 21) show 42.3 percent of 1992 FGS high school graduates enrolling in a four-year college program and only 28 percent²⁹ in some other type of program. That suggests that FGSs might in fact head for the four-year programs in greater numbers when all the variable effects are controlled.

Warburton et al. (2001) provide some details about the type of four-year institution that American FGSs attend. They are more likely to enrol in public institutions than private ones³⁰ and less likely to attend research/doctoral universities, but more likely to enrol in comprehensive universities.³¹

In a transversal quantitative study based on a sample of 5,787 high school graduates in New

28. The other variables were: family income level, family structure (single-parent family or not), type of high school (private or public), residence (rural, suburban or urban), aptitude and amount of academic preparation, aspirations of parents and children, commitment of parents in preparing for college, friends' college plans, help from the high school in applying for college and extracurricular activities.

29. $100\% - 42.3\% = 57.7\% \times 49\% = 28\%$.

30. We should point out that this is also the case for non-FGSs, but in slightly different proportions.

31. Universities offering bachelor's and master's programs but not doctoral programs.

Hampshire, Toutkoushian (2001) looked at the applications sent to nine universities of various types (public or private, offering bachelor's or including higher degrees, more or less selective, with tuition fees ranging from affordable to high) to ascertain the influence of many different individual, institutional or economic variables. At the first level, students pursuing doctoral studies, with good SAT results, good high school grades and aiming for enriched classes, applied to the most selective institutions. The data also showed that New Hampshire State College received more applications from students with low incomes and in the FGS category (strictly defined) than the other institutions. But these results do not take into account inter-relationships among the variables. Using multiple regressions, the choice of institution according to interests and the level of academic preparation was confirmed, while the influence of family income and parental schooling was not. Still, that conclusion may be limited to New Hampshire findings.

Many studies focus on FGS pre-college expectations, planning and process for choosing an establishment (York-Anderson & Bowman, 1991; Barahona, 1990; Attinasi, 1989; Pratt & Skaggs, 1989; Stage & Hossler, 1989; Conklin & Dailey, 1981; Murphy, 1981). York-Anderson and Bowman, for example, report differences in basic knowledge about post-secondary studies, personal commitment and family support that put FGSs at a disadvantage. According to Barahona, the FGS variable has a significant indirect effect on participation in college studies, which translates as a dampening of aspirations from high school onward: "In other words, by the twelfth grade the first-generation variable appears to already have had its effect (primarily on aspirations)" (Barahona, 1990: 228–9). Attinasi describes a two-step process: the first concerned with attitudes and behaviour before post-secondary enrolment, and the second concerned with academic and social adaptation within the establishment. Stage and Hossler found that many parental characteristics—including the amount of schooling—had a significant effect on the parents' expectations for their children after they turned nine years old, which in turn influenced the plans of the children themselves.

However, although an examination of pre-college expectations, aspirations and attitudes can be useful in explaining FGS choices of establishments and types of establishments, they are generally limited by the fact that they only collect retrospective FGS information, which cannot be contrasted with information on other children whose parents had the same amount of schooling but who did not go on to post-secondary education. It is therefore difficult to know whether such studies provide information on the variables influencing access or merely on the continuation of studies once they have been started.

Other studies focus on the transition from high school to post-secondary studies. Some of them provide personal and even touching anecdotes about student experiences (e.g., Lara, 1992; Rendon, 1992; Rodriguez, 1982, 1975). FGSs face different sources of anxiety and uprooting. For them, the experience is often an acculturation process as well as a social and academic transition (London, 1996, 1989; Weis, 1992, 1985). Like Rendon and Rodriguez, London studied FGS efforts to balance the roles and conflicting demands of family membership and educational mobility. Similar feelings of confusion, isolation and even anguish were also reported by Terenzini et al. (1994). Such qualitative studies give us background on the emotional and psychological experiences of FGSs. But even though they deal with experience prior to post-secondary enrolment, these studies suffer from the same problem as the preceding set: they do not allow for comparison with the rest of the student population whose parents had the same amount of schooling. They therefore provide information on the results of being an FGS, rather than on the access process.

2.3. Some Findings

Very few studies on FGSs deal specifically with the process of post-secondary access, but we were able to pull some findings out of the American work we reviewed. First, the studies show that compared to their classmates whose parents did have post-secondary education, FGSs are less likely to go on to higher education. That could be due to a lack of

experience—and therefore knowledge—among the parents of FGSs about the transition from high school to post-secondary education. Other studies show that their family characteristics distinguish FGSs from other students when it comes to educational expectations and choice of establishment. However, there are still other studies showing that if

the co-variables are controlled, the FGSs who enrol in post-secondary studies have similar aspirations to non-FGSs and choose four-year colleges in greater numbers than any other type of establishment. Lastly, it should be emphasized that the latter results remain limited since they only deal retrospectively with FGSs who have taken post-secondary studies.

3. First-Generation Students and Participation in Education

After reviewing the work on the influence of FGS status on accessibility and the decision to seek higher education, we shall now look at how the authors perceive the impact of such status on the actual studies and the nature of the students' educational experience. There is more interest in participation in education than in access. Research on FGSs has in fact concentrated more on the educational experience than on access. The underlying focus of such research is to determine whether FGSs have the same educational experiences as other students.

We present the findings in five stages. The first section describes the principal dimensions of the educational experience in several studies. The second deals with research on community colleges and two-year colleges. In the third part we review the studies on universities and university colleges. The next part reviews general studies on the whole of post-secondary studies, and the last section is devoted to Canadian studies on the issue.

The research comes in many different formats. Some are case studies on a particular institution, often done as part of that institution's research aiming to obtain a better understanding of its student body. Others have a wider scope, using samples of students from different institutions or national representative samples. They include several longitudinal studies³² that allow for analysis of the students' experiences beyond first year. The difference in formats partly explains the difference in results, which may appear contradictory in some cases. For example, some studies conclude that FGS status is not a differentiating factor in experiences, while others find that it is.

3.1. The Educational Experience

The educational experience covers a whole set of dimensions (see Table 2). Some relate to the way institutions are attended, which is defined by the nature of the institutions and individual enrolments at them. Here we must stress the influence of Tinto's approach, whether tacit or explicit, because a distinction is often made between intellectual integration and social integration. Many items studied fit into one or the other of those two dimensions. Other items studied relate to how students go through the system, their persistence and their performance. Thus, we find variables on dropping out, interrupting studies, earning degrees, cognitive progress and grade point average. Many studies look at the likelihood of persisting and high school grade point average. Some are also interested in the situation outside of school, such as family support, working for pay while studying and financial circumstances.

Some of the studies take an overall view of progress and academic grades. This is true especially of Terenzini and Pascarella, who have also tried to measure students' cognitive development—i.e., the acquisition of intellectual skills such as math, critical thinking, reading or writing, scientific reasoning, etc.

The studies are all quantitative except for the one done by London and the Canadian one by Lehmann (2007). London wanted to find out how the college educational experience affects the individual, while Lehmann followed the effects of FGS status and social class on dropout rates.

32. For example, five studies were based on the *Beginning Postsecondary Students Longitudinal Study* (Lohfink & Paulsen, 2005; Hahs-Vaughn, 2004; Duggan, 2002; Warburton et al., 2001; Choy, 2001). This nationwide study was done by the National Center for Education Statistics (NCES) in order to collect data on persistence, completion of post-secondary programs, the relationship between work and education and the impact of post-secondary education on individuals' lives. It focused specifically on American students enrolling in a post-secondary institution for the first time. At the beginning, the students were surveyed as part of the *National Postsecondary Student Aid Study (NPSAS)*, which looked at how students and their families pay for post-secondary education; two and five years later the students were re-surveyed under the BPS regarding their experiences of post-secondary education. Up to now, the BPS has followed three cohorts: 90/94, 96/01 and the current cohort, surveyed for the first time in 2004 and to be surveyed for the last time in 2009 (NCES, 2008).

Table 2: Summary of Factors and Variables in the Research on First-Generation Students

	Attendance	Progress and results
Billson & Terry (1982)	<ul style="list-style-type: none"> • Expectations of schooling • Residence (campus/off campus) • Paid work while studying • Participation in extracurricular activities 	
Warburton et al. (2001)	<ul style="list-style-type: none"> • Remedial courses • Intensity of studies (full-time/part-time) • Type of institution (private/public) • Type of university (research/comprehensive) • Choice of program • Averages 	<ul style="list-style-type: none"> • Change of institution • Interruption of studies • Dropping out • Graduating
Terenzini (1996)	<ul style="list-style-type: none"> • Choice of discipline or courses (subject) • Perception of support from education counsellors • Intensity (number of course hours) 	<ul style="list-style-type: none"> • Cognitive development: progress in math, critical thinking, reading comprehension
Pascarella (2003, 2004)	<ul style="list-style-type: none"> • Social activities (sociability/integration) • Time devoted to studies • Courses in sciences, mathematics and humanities • Participation in extracurricular activities • Selection level 	<ul style="list-style-type: none"> • Development of scientific reasoning • Openness to diversity • Desire for knowledge • Improved writing skills • Taking ownership of academic success • Expectations and aspirations
Chen & Carroll (2005)	<ul style="list-style-type: none"> • Remedial courses • Choice of major • Orientation of programs (professional/scientific) • Number of courses taken 	
Brown & Burkhardt (1999)	<ul style="list-style-type: none"> • Type of courses chosen 	<ul style="list-style-type: none"> • Grade point average
Nuñez et al. (1998)	<ul style="list-style-type: none"> • Intensity of studies (full-time/part-time) • Paid work while studying • Choice of institution (private/public; two-year/four-year) • Residence while studying • Remedial courses • Financial assistance • Academic and social integration 	<ul style="list-style-type: none"> • Time of entrance into post-secondary studies • Rate of persistence and rate of success • Type of degree obtained
London (1996)	<ul style="list-style-type: none"> • Educational experience as an intellectual, psychological, cultural and family challenge 	
Lohfink & Paulsen (2005)	<ul style="list-style-type: none"> • Academic integration (Tinto) • Social integration (Tinto) • Financial assistance • Nature of the institution 	<ul style="list-style-type: none"> • Persistence from first to second year
Ishitani (2003, 2006)		<ul style="list-style-type: none"> • Rate of persistence
Choy (2001)	<ul style="list-style-type: none"> • Type of institution (two or four years) 	<ul style="list-style-type: none"> • Rate of persistence • Graduation rate according to type of degree
Grayson (1997)	<ul style="list-style-type: none"> • Participation in cultural activities • Participation in clubs • Residence • Academic commitment (active in classes, relationships with professors, involvement in sports, use of services) 	<ul style="list-style-type: none"> • Grade point average

Table 2: Summary of Factors and Variables in the Research on First-Generation Students (continued)

Attendance		Progress and results
Naumann et al. (2003)		<ul style="list-style-type: none"> • Grade point average
Zalaquett (1999)		<ul style="list-style-type: none"> • Grade point average • Persistence
Dennis et al. (2005)	<ul style="list-style-type: none"> • Adaptation to college • Commitment to college 	<ul style="list-style-type: none"> • Grade point average
Hahs-Vaughn (2004)	<ul style="list-style-type: none"> • Intellectual experience (intellectual integration) • Extracurricular experience 	<ul style="list-style-type: none"> • Obtaining degree • Grade point average • Educational aspirations

3.2. Educational Experiences of Variable Intensity in American Community Colleges

Not many studies have been carried out on students at community colleges, and those that exist are mainly case studies on particular institutions. Only the work by the Pascarella team (2003) is different. But all of them looked at whether being an FGS had an influence on one component of educational experience or another. Their various conclusions point to minor differences in very specific aspects of the educational experience, such as family support (York-Anderson & Bowman, 1991), the number of courses taken (Brown & Burkhardt, 1999), the way college is attended, the amount of time devoted to studies, course selection according to discipline, social integration and the intellectual skills acquired (Pascarella et al., 2003). Pascarella indicates, however, that the differences between FGSs and non-FGSs become blurred over time. While entry to college may be a particularly life-altering moment for FGSs, they develop a certain resilience so as to get the full benefit from their studies.

We wonder whether the lack of “marked” differences between FGSs and non-FGSs can be attributed in part to the special community college format. These colleges offer specific training programs that attract students who already resemble

each other in terms of study habits and intellectual background, so family surroundings would have less influence on their progress.

York-Anderson and Bowman (1991) did their first research on how much information FGSs have about colleges compared to how much second-generation students (SGSs) have. Based on a small sample of students enrolled in an American Midwest community college (201 respondents), the study finds that the only significant difference between FGSs and SGSs lies in the latter having received greater family support.³³ It is of interest that no significant differences were noted with respect to factors such as knowledge of the college, personal commitment to studies or perceptions of family pressure.

In 1999 Hodges also published a case study on the differences between FGS and non-FGS “patterns” during the first year at an urban community college. She states: “The personal demographic characteristics of the individuals—the effects of generational status, type of high school, ethnicity, age, income, father’s education, and mother’s education—were not predictive of their success in college as measured by credit hour completion” (Hodges, 1999: 92–3). But she also notes that FGS and non-FGS grade point averages were predictive of success (as measured by credit hour completion).

In the same year, Brown and Burkhardt (1999) published a study on the real impact of parents’ educational level on the academic performance of students enrolled in a community college in California. Their results show that the background

33. Results obtained by an analysis of variance.

variables were more significant in predicting grade point averages than enrolment characteristics³⁴ or FGS status.³⁵ The differences between FGS and non-FGS grade point averages were too small to be significant.³⁶ The research also shows that economic resources, prior preparation, nationality and age are factors having a greater influence on the components of educational experience than social background measured by the parents' education level (i.e., FGS vs. non-FGS status).

We should not, however, rush to conclude that FGS status has no influence. The difficulty with local studies (dealing with just one educational establishment) is in knowing whether that institution may, for one reason or another, be recruiting students with specific characteristics that would lead to specific types of educational experience. Brown and Burkhardt (1999) note that prerequisites for enrolment in community colleges are lower than those for four-year colleges (university colleges). That may generate greater variation in students' academic preparation, which is reflected in their choice of courses.

Pascarella et al. (2003) were also interested in FGSs at community colleges,³⁷ in a study based on a larger sample than those discussed above. They looked at the students' educational experiences as well as their cognitive development.

A first finding is the existence of significant differences between FGSs and non-FGSs in terms of their college experiences. FGSs are at a particular disadvantage compared to "higher" non-FGSs when it comes to attendance, time devoted to studies, courses in science, math and humanities and work responsibilities. They are less likely to join a fraternity. However, the differences between FGSs and "moderate" non-FGSs are less marked.

That said, Pascarella et al. note that the educational experience in community colleges has just as beneficial an effect on cognitive and psychosocial development among FGSs as it does among

"higher" non-FGSs. However, the educational experience is more beneficial for FGSs than for both "higher" and "moderate" non-FGSs when it comes to improved writing skills and internal locus of attribution for academic success. Similarly, FGS academic aspirations (i.e., diploma sought) are more developed than those of "moderate" non-FGSs.

The authors also find that after two years of college studies the cognitive and non-cognitive development of FGSs is the same or even higher than that of "moderate" non-FGSs. The authors say that these results show that FGSs are able to rise above experiences that could hold them back and develop a certain resilience that helps them get the maximum benefit out of their college studies.

To sum up, this research shows that students' educational experience is variable, with FGSs standing out from other students in certain specific dimensions, leading to modulation of their cognitive development. The educational experience is also of variable intensity, because it lets them acquire talents or skills and create a social network that encourages persistence. Therefore, FGS status does not necessarily lead to failure or dropping out.

3.3. The Educational Experience in American Universities and University Colleges

Many studies looked at FGSs who had been admitted and enrolled at American university colleges and universities. Some are case studies based on a student sample from just one university establishment. The results of these studies are very different, and sometimes at odds. For example, some find that FGS status has an effect on academic results (Penrose, 2002; Riehl, 1994, on dropping out), while others find that it does not (Naumann et al., 2003; Zalaquett, 1999; Pratt & Skaggs, 1989). On the other

34. This variable corresponds to students' educational objectives in enrolling in a community college (type of diploma or transfer to a four-year institution) and the type of learning path chosen (transfer-level, non-transfer degree-applicable, certificate-applicable, basic skills) (Brown & Burkhardt, 1999: 11).

35. The authors obtained these results by a multivariate analysis (logistic regression).

36. The authors state that their research on the academic success of FGSs and non-FGSs generally provides significant results, but that this is due to the size of the sample rather than to an actual effect of FGS status on academic performance (p. 18).

37. They sampled students from five American community colleges in five different regions. Three were in large urban centres and two in medium-sized towns. The student bodies came from relatively modest socio-economic backgrounds. Sixty percent were white, and the average entry age was 23. The study sample comprised 144 students chosen randomly, who took part in the *National Study of Student Learning (NSSL)* on three occasions (autumn 1992, spring 1993 and spring 1994). In order to avoid some sampling bias, the findings were weighted by institution according to gender and age at the end of the second year.

hand, differences are noted when it comes to attendance and the role played by the outside-school experience (lifestyle, parental support). FGSs can also be distinguished in terms of their academic preparation. That being said, high school grades or admission test results have as much influence on FGS success as they do on non-FGS success.

These differences among results may depend as much on the characteristics of the establishments studied as on those of the students. In other words, there may be an “establishment effect” at work. But that assumption can really only be tested in a comparative study between establishments.

Zalaquett (1999) and Dennis et al. (2005) studied FGSs from ethnic groups in two specific universities. It would be hard to generalize the results, but the studies do make a contribution in identifying strategic dimensions and suggesting some interesting hypotheses. As such, they look at the influence of family support and economic conditions on the various dimensions of the student experience and outcomes. In addition, they explore the influence of previous academic preparation on the ongoing intellectual experience and its subjective interpretation. The ongoing experience can vary depending on the student—some find it difficult; others find it easier—but in all cases it can be a factor contributing to individual development and academic success. Ishitani’s study (2003) in just one public university is also interesting. He shows that the fact of being an FGS does increase the risk of dropping out of university, but that effect, which is particularly high during the first year of university, varies from semester to semester, suggesting that time has an influence over the variables that lead people to drop out.

Several studies were based on representative samples of the student body. They lead to similar and often complementary conclusions (Pike & Kuh, 2005; Pascarella et al., 2004; Hahs-Vaughn, 2004; Duggan, 2002; Warburton et al., 2001). Some differences in the way FGSs and non-FGSs attend are noted using several indicators, such as choice of institution (public or private, research or non-research university), number of courses, type of courses (number of remedial courses taken), intensity

of studies (part-time/full-time), extracurricular activities and academic aspirations. FGSs are also at a disadvantage in terms of their outside experience (living conditions).

Academic results are also often different, and FGSs drop out more readily. Variations in terms of academic results or the acquisition of intellectual skills do exist but fade with time (Ishitani, 2006; Hahs-Vaughn, 2004; Duggan, 2002). FGSs who stay the course will catch up with non-FGSs and compensate for their lower cultural capital, which suggests that a resilience factor is at play. Warburton et al. (2001) point out that prior intellectual preparation is different, and this influences the FGS experience. But they also indicate that when preparation is equal there is no difference between FGSs and non-FGSs. Pascarella et al. (2004) find that FGSs are less involved in social and intellectual life, but when they do get involved it has a positive effect on their acquisition of intellectual skills. That tends to confirm the effect that ongoing educational experience can have on academic or developmental results. Hahs-Vaughn (2004) notes that the ongoing educational experience has a greater influence on FGSs than does knowledge acquired in the past. However, the opposite is true of non-FGSs, who are more affected by knowledge acquired in the past. She also notes that extracurricular experiences are more significant for FGSs.

The FGS situation and the factors influencing their academic career are often analyzed through case studies on particular institutions. Billson and Terry (1982) were among the first to use the FGS concept. Their analysis, carried out in a private liberal arts college, looks at students’ academic expectations and their integration.³⁸ The authors at first noted a slight difference in academic expectations between FGSs and SGSs. However, they found a wide gap in structural integration between the two groups. Since FGSs were more likely to live off campus than were SGSs, the FGSs had fewer resources (e.g., finances) and more often worked 35 hours a week or longer. The lack of study time attributable to work (travelling, working hours, etc.), coupled with the tendency to live off campus, led to lower rates of social and structural integration.

38. We should point out that this study does not include multivariate analyses. The findings are not controlled for the possible effects of socio-demographic variables.

At the academic integration level, (“measured” by involvement in extracurricular activities and attitudes to study), FGSs are less involved in organizations and more detached from the goal of earning the diploma as a criterion of success.

Another dimension studied is the relationship between FGSs and their families, since acquiring the values and behaviour associated with academic success can lead to conflicts within the family and even with the local community. Overall, the fact of being an FGS has a negative effect on educational experience. FGSs do not benefit from the same support as SGSs, and conflicts are more likely to arise with the values and behaviour of their families and communities.

Pratt and Skaggs (1989) looked at whether students at the University of Maine were more likely to drop out. They found not much significant difference between FGSs and SGSs, except in terms of institutional commitment. They noted that FGSs seemed more committed to their university than were SGSs, since more of them enrolled at the University of Maine and there was little likelihood of them transferring to another university. In terms of social integration, the FGSs had fewer inclinations to join student fraternities than did the SGSs. There was hardly any difference between the FGSs and SGSs when it came to goal commitment. The FGSs tended to have aspirations limited to a bachelor’s degree and were not contemplating higher studies after that. That said, both types of students put the same importance on pursuing higher learning and considered themselves equally motivated in terms of their aspirations. However, it was more important to SGS parents than to FGS parents that their children pursue university studies. Lastly, Pratt and Skaggs emphasize that FGSs did not seem more inclined to drop out than did SGSs.

A few years later, Riehl (1994) compared FGSs with other students in terms of academic preparation, aspirations and first-year performance at the State University of Indiana. His analysis shows that FGS SAT results, mean high school grade point average and first-semester grades were significantly lower than those of non-FGSs. In addition, FGSs had

significantly lower expectations about their grade point average and eventual diploma. But there was no significant difference between FGSs and non-FGSs when it came to mean high school grade point average. Lastly, Riehl concluded that FGSs showed poorer academic performance than did non-FGSs and that their dropout rate was higher than that of other students.

In 1999 Zalaquett undertook a case study in a Texan university. He looked at FGSs from the point of view of their ethnic origin. He found a higher proportion of ethnicity among FGSs than among non-FGSs. However, the FGSs in the university were no less persistent and did not have lower grade point averages than did the other students. This contradicts other studies pointing to a higher dropout rate and lower grade point averages among FGSs with ethnic origins (Zalaquett, 1999: 420). A possible explanation for this different finding could lie in the composition of the Texan university student body. Since there were very many FGSs at the institution, they may not have felt different from the other students.³⁹

Warburton et al. (2001), who studied students enrolled in four-year colleges, broke with the case study mould and used a large student sample (the *Beginning Postsecondary Students Longitudinal Study, 1995–96*). Their aim was to measure the effect of social origin and academic preparation (nature of the high school curriculum) on educational experience. The authors point out that the level of parents’ schooling (and therefore FGS/non-FGS status) has a negative effect on the students’ academic progress.

FGSs generally have weaker academic preparation than other students, and this affects the way they attend college, since more of them have to take remedial courses. When the academic preparation is equal, the differences disappear between the two categories of students at college.

FGSs sometimes take different paths, with more of them interrupting their studies and changing institutions. A multivariate analysis shows that parents’ education has a significant effect on whether students stay at their original institution. FGSs and non-FGSs whose parents attended college without graduating

39. Dennis et al. (2005) did a longitudinal study on the effect of motivation and family support on the college educational experience of FGSs from ethnic minorities. They found that high school grade point average is a stronger predictive variable than college grade point average. Within a single university, this study stresses the importance of prior school experience as a source of influence on the ongoing educational experience. The study also indicates that SGSs trust their peers to support them more than their families. That may be due to the fact that SGSs are far away from their families. It would be good to know whether these findings can be generalized.

have lower grade point averages than do non-FGSs whose parents graduated. FGSs are also more likely to drop out and less likely to graduate. In short, social origin measured in terms of parents' schooling does have a significant effect on persistence and grades. However, this has to be weighed against prior academic preparation, which plays a role in reducing the differences between FGSs and non-FGSs.

Warburton et al. (2001) obtained other interesting findings from descriptive analyses. Compared to non-FGSs whose parents had bachelor's degrees, FGSs are more likely to enrol in college part-time. They are also more likely to work full-time while at college, and a greater percentage of them take a business/management major. The authors conclude that FGSs opt for studies that will lead to socio-economic mobility.

Duggan (2002) also used the U.S. *Beginning Postsecondary Students Longitudinal Study* to examine the persistence of students enrolled for the first time in a four-year college. His analysis shows that FGS status does influence student persistence in four-year colleges, since FGSs are four percent more likely than non-FGSs to drop out during the first year. For this author, it is not only FGS status that affects the college experience, but also the fact that those students have a lower than average amount of social capital. They are therefore not "pre-socialized" to the milieu, which can lead to difficulties in integration, understanding of how the institution works, searching for support, etc. For example, FGSs who do not take part in artistic activities in college are less likely to continue their studies. Students who have no email address and those who do not meet with their education counsellor regularly are in the same situation. In short, this study indicates that FGSs who manage to compensate for their lack of social capital after they enter college are more likely to persist than are other FGSs. FGS status and social origins are reflected in their educational experience, but their individual ability to build significant social relations within the environment may balance out those negative factors.

Penrose's article (2002) presents a case study of students at North Carolina State University. Interesting contrasts emerge from the analysis: FGSs have the intellectual ability to succeed but they drop out more; they are confident of their skills when they arrive at university, but insecurity creeps in as they study; they have a positive perception of their abilities in science and math but underestimate their communication skills.⁴⁰

Naumann et al. (2003) found that ACT results are predictive of the grade point average of students enrolled in a large Midwestern university. But that indicator does not distinguish FGSs from non-FGSs.⁴¹ The conclusion seems to be that if students get good grades, their status will not be a factor. Although this is an interesting hypothesis, it needs to be tested on a larger sample.

Ishitani (2003) also uses a student sample from a single university. His study is original, because it is based on the hypothesis that the factors affecting student persistence change. The hypothesis is partially confirmed. Thus, while the negative effect of FGS status on persistence was more significant during the first year of study, the author discovered that the FGS dropout risk becomes lower in third year. The results were not so significant for the second, fourth and fifth years of study.

In 2006 Ishitani published another study on FGS persistence and diploma earning in four-year colleges, this time using a nationwide sample. He found that FGSs are more likely than their peers to drop out at any stage. They are also less likely to complete their studies and obtain their diplomas "in a timely manner" (i.e., within the prescribed time). Ishitani does add a nuance: "Although the effect of being a first-generation student itself had a negative effect on college persistence, student persistence and timely graduation rates could alter depending on other pre-college characteristics in this study, such as high school academic attributes" (Ishitani, 2006: 880).

His study generally confirms the idea that students with better academic preparation (i.e., developed academic skills, high-level high school

40. Note, however, that the author uses two samples that do not use the same definition of FGS. See Table 1.

41. Note that the FGS sample used in this study was quite small and not representative, and no socio-demographic controls were applied.

academic intensity⁴²) are more likely to stay in and succeed. That said, Ishitani's "temporal" regression analyses show that the effects of academic preparation are not linear across time. He makes a link between this discovery and FGS persistence rates: "Furthermore, the result of this study allows us to estimate how varying effects of high school academic attributes along with other factors, such as family income, affect the college persistence rate for first-generation students longitudinally" (Ishitani, 2006: 880).

These studies by Ishitani highlight an important dimension of the educational experience: the factors that influence persistence can change over time.

Based on a nationwide sample, Hahs-Vaughn (2004) tried to identify the factors that most influence educational experience through the four years of college. Her main finding is that educational experience in college⁴³ is of greater importance to the "educational outcomes"⁴⁴ of FGSs than is their "pre-collegiate traits." For non-FGSs, however, it is pre-college experiences that affect grades the most.

Like Pascarella, she concludes that extracurricular experiences have more influence on FGSs than on non-FGSs: "The 'social capital' gained by participation in non-academic experiences for first-generation students may be a way that these students can acquire the 'cultural capital' that helps them succeed in college" (Hahs-Vaughn, 2004: 497).

It is also interesting to note that the differences between FGSs and non-FGSs fade with time. Hahs-Vaughn writes: "First-generation and non first-generation students were more different upon beginning college than as measured at time points beyond their first year" (Hahs-Vaughn, 2004: 495). She found no significant difference between FGSs and non-FGSs when it came to educational experience, intensity of enrolment, grade point average and earning a diploma. This indicates that the differences—at least some of them—between the two types of students could disappear during the course of the educational experience. However, this may only apply to those who persist, rather than to the whole FGS cohort that enters college.

The Pascarella team did another study of students in four-year colleges (2004). The research is based on the assumption that cultural and social capital have an influence on the educational experience. They found that FGSs have different educational experiences from other students. That said, the difference does not negatively affect the outcomes of their studies. The research instead points to a certain independence between the nature of the educational experience on the one hand and the results or outcomes of the studies on the other. In that sense, the educational experience must be seen as a particularly important time for acquiring cultural and social capital.

The researchers found that FGSs have significant disadvantages in terms of their educational experiences and outside-school life. The greatest disadvantages were in comparison to "high" non-FGSs at different levels, particularly the time devoted to studies (they take fewer course hours and spend more hours on paid work). FGSs are also less likely to live on campus than are other students. The authors say this characteristic may explain why FGSs have less extracurricular involvement than other students and fewer contacts with their peers outside the classroom. Those types of social activities do play a significant role in college students' intellectual and personal development.

Even though FGSs are less likely than other students to engage in such activities, the research shows that when they do it has significant positive effects on their critical thinking, future diploma, internal locus of attribution for academic success and their preference for high-level intellectual tasks. Pascarella et al. state that the social capital FGSs acquire through such activities is particularly useful for acquiring further cultural capital that will help them succeed on the academic and cognitive levels: "Extracurricular or peer involvement may expose first-generation students to classmates with better understanding of behaviours that help individuals succeed in, and maximize the benefit they receive from, college" (Pascarella et al., 2004: 278).

42. "High school academic intensity was estimated by the highest observed level of curriculum across each major component, such as math, reading, and science" (Ishitani, 2006: 882, note 2).

43. Including non-academic experiences, academic experiences and the intensity of enrolment.

44. I.e., earning a diploma, grade point average, educational aspirations.

The researchers found significant but slight differences between FGSs and non-FGSs in terms of their cognitive and psychosocial development. The clearest difference centred on the future diploma: FGSs had significantly lower expectations than other students. The authors conclude that this is due to the difference in family cultural capital between FGSs and “high” non-FGSs. Parents who had been to university were more aware of the importance of this level of study on the labour market. Pascarella et al. also found significant differences with regard to the impact of academic and extracurricular experiences on the cognitive and psychosocial development of FGSs compared to non-FGSs. FGSs are at a disadvantage compared to other students⁴⁵ in terms of their cultural and social capital. However, attendance at a university college produces more markedly beneficial effects in FGSs than in non-FGSs.

Pike and Kuh (2005) followed Pascarella’s model in their own study of college and university students during their first year. This study tried to draw a distinction between the direct and indirect effects of the various factors examined. They found that the students’ characteristics do not directly affect their grades, but they do affect them indirectly due to intellectual involvement, students’ social commitment and the characteristics of the institutions. Pike and Kuh found that FGSs are less involved and less well integrated into institutional life than other students, perceive their surroundings as less supportive and make less progress in their learning and intellectual development. However, the authors say these findings must be compared with FGS educational aspirations and where they live. They emphasize, for example, that the lowest levels of involvement result indirectly from the fact of being an FGS and are more directly due to the fact of having lower educational aspirations, as well as living off campus.⁴⁶ They also note that the fact of living on campus has a direct and positive effect on grades. In addition, educational aspirations have the most significant indirect effect on intellectual development and learning.

3.4. The Educational Experience at the Post-Secondary Level in the United States

The last set of American studies focuses on educational experiences at the post-secondary level without distinguishing between the types of institution (community college, two-year college, four-year college or university). Most of the studies are quantitative and based on huge student samples, but there is one exception: the work of London (1996, 1989), which examines personal histories in a comprehensive analysis of the transition to post-secondary studies. That study highlights the cultural, identity, psychological and intellectual transformations that may have an acculturation effect in relation to the social and cultural origins of FGSs.

The findings of the other, quantitative studies mainly point to a gap between FGSs and non-FGSs when it comes to high school aspirations and expectations throughout college, influencing the choice of post-secondary studies (Barahona, 1990). FGS status has an impact on the likelihood of giving up or dropping out (Lohfink & Paulsen, 2005; Choy, 2001; Nuñez et al., 1998; Barahona, 1990). The likelihood varies depending on the type of institution attended. The way it is attended (return to studies, enrolment in remedial courses, intensity of study, program choice) is also influenced by students’ cultural origins. At this level, students’ integration and involvement in student life has an effect on persistence and grades. The living conditions of FGSs also influence their educational paths. The Terenzini team (1996) points out differences in acquiring intellectual skills, although they are not manifest in all the indicators used. Such differences tend to fade as studies continue. Choy (2001) notes no variations in grades between FGSs and non-FGSs if dropouts are controlled for. The idea that a large percentage of FGSs develop some sort of resilience over time is reinforced here. Only McCarron and Inkelas (2006) found no difference between FGSs and non-FGSs.

45. Particularly those who have two parents with university degrees—i.e., “high” non-FGSs.

46. They note that these findings match those of Terenzini et al. (1996). That said, they found, contrary to Terenzini, that the college educational experiences had an influence on both FGSs and SGs (Terenzini, 1996: 289).

London (1989) carried out a first qualitative study in various colleges around Boston, focusing on relationships with parents and taking a fresh look at the concept of assigned family role and the type of separation. An analysis of four life stories shows that for FGSs the start of post-secondary education is a time of separation from the family. The study analyzes the roles that parents and students play in this process. London emphasizes the presence—individually or combined—of the three “transactional modes” developed by Stierlin: the “binding” mode, in which parents want their children to remain “attached” to the family; the “delegating” mode, in which parents encourage their children to become autonomous but the children are still attached to their parents out of a “sense of loyalty”; and the “expelling” mode, where the parents neglect and reject their children, who in turn consider them a barrier to achieving their goals.

In 1996 London published the results of a second nationwide study in which he continued his analysis of the cultural transformations introduced by the passage to post-secondary education. He found that entrance and adaptation to college is not necessarily difficult for all FGSs. For many of them, post-secondary education has been anticipated and therefore represents a way to maintain their parents’ social and economic status or acquire greater social and economic mobility. For other FGSs, on the other hand, the transition to post-secondary studies is a great change for both themselves and their family members. These students did not grow up with the idea of continuing on to post-secondary education, and they go through a profound transformation.

London focuses on this latter group of FGSs. Intellectual changes not only make FGSs aware of their interests and develop in them a taste for learning, but may also develop more analytical thinking and greater self-awareness. London (1996) finds that post-secondary studies alter self-awareness at the psychological level. He also says that becoming a student involves transforming one’s identity: “For first-generation students, movement into the middle class requires a ‘leaving off’ and a ‘taking on,’ a shedding of one social identity and the acquisition of another” (London, 1996:12).

Adaptation to and appropriation of the intellectual culture may distance students from their original culture. The student then has to renegotiate relationships with family members and the community; such negotiations are not always easy and do not always turn out well.

The type of influence FGS status has was examined in 1990. Barahona’s doctoral thesis (1990) tries to distinguish the indirect effects of FGS status from its direct effects on educational aspirations, access to post-secondary studies and persistence. She uses data from the NCES study *High School and Beyond* (1980). Barahona finds direct FGS effects on college-level aspirations. In addition, “this first-generation effect was found to continue operating throughout six critical years of a student’s life” (Barahona, 1990: 227). The “FGS effect” is more significant and works independently when it comes to post-secondary aspirations, even though other variables such as family income and low math grades have an effect on the dependent variable. She also finds that the fact of being an FGS has a negative influence (both direct and indirect) on persistence. More specifically, out of all the students enrolled in college studies, it is less likely that FGSs will still be enrolled four years after completing high school.

Terenzini et al. (1996) developed a longitudinal theoretical model to synthesize the different theories on educational experience, including the effects of schooling. According to their model, cognitive results combine student traits before entering college with the academic work, the classroom experience and extracurricular activities. The first findings showed that FGSs have traits developed through their pre-college educational experience and college experiences that set them apart—often at a disadvantage—from traditional students. Terenzini et al. found no differences in the cognitive development of FGSs and traditional (non-FGS) students in terms of skills acquired in math and critical thinking. However, after a year of college, the traditional students had developed greater reading comprehension skills than FGSs. These authors believe that FGSs are at risk in terms of performance and persistence: “One clear implication of this

evidence is the need to smooth first-generation students' transition from work or high school to college and to extend active targeted support throughout their first year, if not beyond" (Terenzini, 1996: 17). Their analysis also shows that educational experiences in two- or four-year colleges have a weak but significant differential effect on the learning of FGSs compared to traditional students.

Two years later, Nuñez et al. (1998) used a sample of students enrolled in different post-secondary studies for their research. They analyzed multiple educational experience traits: the choice of institution and type of enrolment, professional aspirations, educational integration and persistence.

Their study indicates that FGSs attend post-secondary studies differently (part-time study, full-time work, community college, financial assistance, etc.) and that their choice of institution is influenced by specific criteria (availability of financial assistance, distance from home, etc.). Their report emphasizes that the economic and financial aspects of continuing education are important factors for FGSs, both in terms of their aspirations (trying to improve their lot) and the feasibility of post-secondary study (financial assistance, work).

These authors also noted that FGSs are less well integrated academically and socially than are non-FGSs and that their persistence and success rates⁴⁷ are lower, even when the influence of other variables (socio-demographic, socio-economic and academic) is controlled for. That said, once they are on the labour market, FGSs who earn a degree or diploma have the same opportunities (jobs, salaries) as non-FGSs.

In 2001, Choy published an article on access to post-secondary studies, persistence and integration into the labour market. It is based on the findings of three national and longitudinal studies that followed students for several years between 1988 and 1998. When it came to persistence, the study found that FGS departure or dropout rates differ depending on the type of institution (two or four years). The effect of FGS status is reduced if other factors are considered and does not affect the earning of diplomas (certificates) if the dropouts are not taken into account. Lastly, proportionally more FGSs obtain professional diplomas and fewer earn degrees.

Chen and Carroll (2005) also studied a nationwide sample of students who had attended all types of post-secondary institutions. In terms of attendance, the authors noted that more FGSs took remedial courses than did students who had at least one parent with a bachelor's degree. Similarly, it seemed more difficult for FGSs to choose a major. Chen and Carroll noted that FGSs chose more vocational or technical majors than their classmates who had at least one parent with a bachelor's degree. According to the authors, such choices may be motivated by weaker academic preparation that did not orient FGSs to high-skill fields such as engineering, math or science or by the fact that some of those sectors, such as arts, humanities and languages, do not appear profitable. FGSs also accumulated fewer course credits during their first year, and this tendency continued throughout their course of study.⁴⁸ Lastly, FGSs did less well academically during their first year, and this slight disadvantage seemed to continue throughout undergraduate studies.

The findings of Chen and Carroll on persistence appear less precise. Overall, the regression analyses show that FGSs are less likely to obtain a degree than other students, regardless of the type of institution (two or four years). However, if the concept of persistence is widened (diploma other than a bachelor's degree and taking account of students who are still studying—i.e., the "holdouts"), there are no longer significant differences between the student categories.

Another study, by Lohfink and Paulsen (2005), also based on a nationwide survey, the *Beginning Postsecondary Students Longitudinal Survey, 1996–2001*, finds significant differences between FGSs and traditional students in terms of "persistence behaviours" from the first to the second year of university. According to these authors, the socio-demographic characteristics of FGSs do have an influence on their persistence, indicating the presence of class, gender and ethno-cultural background effects. In addition, the type of educational institution also has an impact on FGS persistence. The study shows that FGSs are less likely to stay in if they are enrolled at a private institution, and their persistence likelihood increases in proportion to

47. In this instance "success" means earning a diploma. Students are considered to be persistent or to have achieved success if they enrolled in a college (two or four years) in 1989-90 and were still enrolled or had obtained the diploma or degree five years later (1994).

48. That said, no controls were done for factors such as dropping out, interrupted studies, deferred admission, etc.

the size of the institution they attend.⁴⁹ Educational experience has an impact on all students' persistence, but with distinctions: FGS persistence is influenced by their academic integration, while the persistence of traditional students is linked to their social integration (e.g., how often they take part in social clubs). The amount of scholarship money they receive also influences FGS persistence.

In 2006, McCarron and Inkelas used the *National Educational Longitudinal Study* to examine the influence of parental involvement on FGS educational aspirations, but their causal model did not point to any significant differences between FGSs and non-FGSs.

3.5. First-Generation Students in Canadian Post-Secondary Education

Very little Canadian research expressly uses the FGS concept in analyzing educational experience, as we mentioned above. Grayson (1997) conducted the principal study, dealing with FGSs enrolled at Toronto's York University. Its objective was to get a better grasp of the relationships between factors prior to the study (parental schooling, gender, family income and high school grades), institutional experiences and grade point averages. The author also wanted to assess whether "race" (ethno-cultural background) can affect grade point averages.

Grayson found that FGSs have a slight disadvantage in terms of grade point averages.⁵⁰ That said, he notes an influence of parents' schooling on students' social experiences. Students with at least one degree-holding parent are more involved in cultural activities and clubs. They spend more time on campus and are generally more involved in activities. However, Grayson stresses that many of

these activities reduce their chances of getting good grades, so perhaps lower participation could be an advantage for FGSs. When it comes to academic involvement (such as classroom involvement, contact with faculty, sports involvement, services involvement, etc.), there is not much difference between FGSs and non-FGSs.

In a qualitative study⁵¹ of FGS experiences in a university in southwestern Ontario, Lehmann (2007) tried to find a correlation between FGS status, social class and dropping out. His results suggest that FGSs are more likely to drop out of university, often despite getting good grades. Using the concept of *habitus* (Bourdieu & Wacquant, 1992), Lehmann posits that FGS dropouts are due to class and culture discrepancies. He interprets such discrepancies as conflicts between a former and a developing *habitus*. Unfortunately, although he does establish a link between dropping out and social class, the FGS effect is not clear.

3.6. What It All Means

The research on FGSs, based on widely differing methodologies, concentrates more on persistence issues than on access. It emphasizes the differences among students depending on whether their parents experienced post-secondary education or not. However, the effect is less noticeable when the "second-generation student" definition is broken down. In addition, the phenomenon is observed in two-year colleges, and it is not clear whether recruitment efforts account for it.

The effect does not have the same intensity in relation to all the different dimensions of educational experience. The disparity among methodologies means that we cannot draw up a precise list of dimensions that fluctuate according to educational background, but we can nonetheless state that an effect does exist.

49. The authors suggest several theories to explain this, including, among others: private colleges are smaller and more focused on the needs of traditional students; FGSs living on campus might feel cut off from their social and family networks; and attending a large institution allows FGSs access to more services designed especially for them or enables them to rub shoulders with students from different backgrounds, thus making contact with their classmates easier.

50. It is also interesting to note that the grade point averages of students with at least one degree-holding parent are higher than those of other students—i.e., those whose parents have a college diploma at best. In other words, the grade point average is affected by the presence of a university degree but not by the mere fact of taking post-secondary courses.

51. Lehmann conducted semi-directed interviews with 25 dropouts from a research university in southwest Ontario. His sample only contained 15 FGSs, which the author himself considers a limited number.

The research that is based on multivariate analyses demonstrates the effect of a “first-generation student” factor. Although that does not mean it is necessarily the weightiest factor, it does exist in various forms from one study to another.

Lastly, the effect does not seem to be as intense at the end of the course of study as at the beginning. That may result from a natural selection effect: many students drop out after a few months, and FGSs who

persist have the attributes they need to succeed. There is also an effect of ongoing educational experience. That FGSs benefit more from this experience is reflected in the fact that their persistence rates are equivalent to those of SGSs. Thus, attention must be paid to how things progress throughout the course of the passage through post-secondary education.

4. Comparing Theories

The FGS concept was created in a very specific context, combining intervention and research. Essentially an American concept, it is rooted in actions aimed at reducing the social inequalities of access and success at the higher learning level. Researchers quickly used it to highlight one particular source of such inequality: parents' schooling. Consideration of that factor is not new in research on inequality: sociologists have been talking about it for years. Is there anything specific or original about using the FGS concept compared to other ways of considering parents' schooling? In this section we hope to make that clear. To do so, we will first show how the effect of parents' schooling on their children's educational journey is accounted for in studies on FGSs, compared to other types of treatment. After that we shall look at how different theoretical explanations dealing with educational inequalities can shed light on how parental schooling affects the educational path and experiences of their children.

4.1. The Parental Education Effect in Research on First-Generation Students

In studies on FGSs, researchers are almost all in agreement that this group is at a disadvantage in terms of access to and continuation of post-secondary education, compared to non-FGSs. Parents' schooling affects children's educational path in two different ways: as a proximal variable (composite) and as a distal variable with its own effect.

In the FGS research we studied, the distinction is often blurred. On the one hand, American researchers emphasize that FGSs form a category whose social and economic makeup is different from that of non-FGSs. The studies show that FGSs are more likely to be women (Engle, 2007; Nuñez et al., 1998), to be older (Engle, 2007; Nuñez et al.,

1998) and to come from ethnic minorities (Engle, 2007; Nuñez et al., 1998; Fallon, 1997) and low-income families, which points to a possible effect of those socio-demographic traits on access to and continuation of post-secondary studies. The authors' rationale, whether explicit or implicit, is simple: the specific composition of that category would explain at least partially the difference in the educational path. But we would still have to find out why women and students from a particular ethno-cultural group or underprivileged socio-economic class have different paths.

On the other hand, several multivariate analyses (Chen & Carroll, 2005; Pascarella et al., 2003, 2004; Warburton et al., 2001; Horn & Nuñez, 2000; Nuñez et al., 1998) point to a separate effect, independent of other social dimensions such as gender, social class and ethno-cultural background. In that case, it would not be a proximal variable.

Recent Canadian studies, such as that of Rahman, Situ and Jimmo (2005),⁵² have already partially established the independence of the variance associated with parents' schooling, at least in comparison to the set of alternative variables composed of residence (living in a region or rural milieu), sex and family structure, but also—and above all—the very important factor of family income. Based on Statistics Canada's *School Leavers Survey* and *Youth in Transition Survey (YITS)*, Finnie, Laporte and Lascelles (2004) corroborated the positive relationship between post-secondary studies and parents' schooling, a two-parent family structure and province of origin (e.g., Quebec). Finnie and Mueller (2007) point out that both parents' income and parents' schooling affect children's access to post-secondary education. They also say that the income level effect on access is lower when parents' schooling is taken into account. Lastly, based on the *YITS* data, Finnie, Lascelles and Sweetman (2005) estimate that every added year of parents' schooling increases the chances of the children attending a

52. Rahman, Situ and Jimmo used Statistics Canada's *Survey of Labour and Income Dynamics (SLID)*.

post-secondary institution by five percent. Controlling for accompanying variables, the researchers showed that 29 percent of men and 37 percent of women continue to post-secondary studies when their parents have a high school diploma, compared to 53 percent of men and 65 percent of women from families where the parents went to university.

These studies tend to indicate that the effect of parents' schooling is more complex than the difference between post-secondary educational experience and its absence. The fact that parents earned a degree or that they attended one type of institution instead of another also influences their children's journey. This means that a parental schooling indicator should take into account the different facets of parents' educational experience.

One interesting thing about the FGS concept is that it makes us think about the way parents' schooling affects children's educational experience. Sociologists have noted the effect of social background on schooling for some time. Such background is usually measured by social position (professional parents, position within class structure, belonging to a class segment, etc.), which spills over to living conditions or a level of cultural capital. But how should we interpret that having parents with no post-secondary experience can jeopardize students when they begin to pursue such an experience? In the research on FGSs, the effect of parents' schooling on the educational path and experiences of the children is manifested in different ways. We have isolated three of them: 1) how parents act; 2) living conditions; and 3) individual character traits.

4.1.1. How Parents Act

Some of the American research shows clearly that when parents have no post-secondary experience, their children experience a lack of parental support that jeopardizes their own pursuit of post-secondary education (Engle, 2007; McCarron & Inkelas, 2006; Horn & Nuñez, 2000; Fallon, 1997; York-Anderson & Bowman, 1991; Billson & Terry, 1982). In concrete terms, such lack of support is manifested by parents having little involvement in their children's post-secondary studies, for differing reasons: they

are less aware of the importance of post-secondary study (Brooks-Terry, 1988) and see it as an additional and very heavy expense (Engle, 2007; Fallon, 1997); they are afraid the children will split from the community (Brooks-Terry, 1988; Billson & Terry, 1982); or they have a negative view of college (Fallon, 1997) and do not understand its demands (Engle, 2007; York-Anderson & Bowman, 1991). In short, their view of post-secondary education means that parents do not put much value on their children's studies, and the children must continually defend what they are doing.

Parents' lack of knowledge and information about post-secondary education is another factor influencing their children's educational experience at this level (Lohfink & Paulsen, 2005; Horn & Nuñez, 2000; Fallon, 1997; Riehl, 1994). Since they do not have much educational capital, the parents do not understand enough to help their children in the transition (planning, choices) to post-secondary studies (Engle, 2007; Horn & Nuñez, 2000) or with their coursework (York-Anderson & Bowman, 1991) or by playing a role in their success (Riehl, 1994). Fallon (1997) stresses that an absence of role models within the student's circle (parents, brothers, sisters) blocks the transmission of relevant information (values, language, regulations, expectations) that they will need in order to succeed. Thomas (2005), although her work deals with all students who are at a disadvantage in terms of higher learning, states that the mere fact of having parents and contacts with post-secondary education can mitigate negative factors affecting the educational path and the pursuit of post-secondary education.

4.1.2. Living Conditions

Several researchers have looked at the particular living conditions of American FGSs. Compared to non-FGSs, they are more likely to have children or other dependants (Engle, 2007; Inman & Mayes, 1999; Nuñez et al., 1998; Terenzini et al., 1996), to work full-time (Nuñez et al., 1998), to come from single-parent families (Horn & Nuñez, 2000) and to have attended high school in a rural setting (Horn & Nuñez, 2000).

The Canadian studies indicate the same patterns and suggest that family income, region of the country, rural or urban residence and family structure all have an impact on participation in post-secondary studies (Rahman, Situ & Jimmo, 2005; Knighton & Mizra, 2002; Lavallée, Pereboom & Grignon, 2001). Participation is higher in Quebec, the Maritimes and British Columbia; the authors believe this is mainly due to structural differences in these provinces' educational systems, such as Quebec's CEGEP system (pre-academic, technical and vocational colleges). Young people from urban settings and women are more likely to take post-secondary studies, while children from single-parent families are less likely to. People whose parents had post-secondary education are more likely to do the same, especially at the university level. On this point, Junor and Usher (2002, 2004) describe the Canadian situation in both a general and a detailed way.

4.1.3. Individual Character Traits

Many researchers find that in the U.S. the educational aspirations (the level of schooling sought) of FGSs have significant negative effects on their educational journey and experiences (Engle, 2007; McCarron & Inkelas, 2006; Lohfink & Paulsen, 2005; Pike & Kuh, 2005; Choy, 2001; Nuñez et al., 1998; Terenzini et al., 1996; London, 1996; Riehl, 1994; Barahona, 1990; Pratt & Skaggs, 1989; Billson & Terry, 1982), but they do not agree on the nature of such effects. For example, Billson and Terry (1982) state that FGS aspirations are just as high as those of other students, but that FGSs are different because they do not perceive post-secondary education in the same way—they are less likely to believe that the degree will help them succeed professionally. Others (Duggan, 2002; London, 1996) distinguish between FGSs who grew up wanting to go on to post-secondary studies and those who did not. London (1996) points out that the former belong to the middle class. For other FGSs, going to college would be a challenge because they do not come from a background that is familiar with post-secondary education. Pratt and Skaggs (1989) state that FGSs are more likely to limit their educational

aspirations to earning an undergraduate degree and do not anticipate going on to higher levels.

Many studies indicate that FGSs are at a disadvantage compared to non-FGSs in terms of academic preparation in high school, which would have a negative impact on their post-secondary educational experiences (Engle, 2007; Pascarella et al., 2003; Warburton et al., 2001; Brown & Burkhardt, 1999; Inman & Mayes, 1999; Fallon, 1997). In concrete terms, when it comes to academic preparation, FGSs have lower grade point averages (Warburton et al., 2001; Inman & Mayes, 1999) and lower rates of participation in enriched programs (Warburton et al., 2001; Inman & Mayes, 1999) or advanced math courses (Horn & Nuñez, 2000). In addition, FGSs are more likely to attend public high schools that do not offer courses especially designed to lead to post-secondary education (Engle, 2007; Fallon, 1997). Some studies (Engle, 2007; Fallon, 1997) indicate that because FGS academic performance is often lower, teachers and various school advisers are less likely to encourage FGSs to undertake post-secondary studies.

FGSs are also at a disadvantage compared to non-FGSs when it comes to post-secondary experiences. Their lower scores on the SATs (Inman & Mayes, 1999; Fallon, 1997) limit their choice of institution to those that are less demanding (Hahs-Vaughn, 2004; Pascarella et al., 2003) and limit their choice of study programs (Fallon, 1997). Chen and Carroll (2005) note that FGSs prefer programs that offer vocational or technical majors to the high-skill fields and that this is due to their lack of academic preparation. In their first year, FGSs are more likely to enrol in remedial courses (Warburton et al., 2001), complete fewer course credit hours, take fewer courses in pure sciences, arts and humanities (Pascarella et al., 2003, Terenzini et al., 1996) and attain lower grade point averages at the end of first year (Pascarella et al., 2003; Warburton et al., 2001).

At the cognitive level, Pascarella et al. (2003) note that FGSs are at a disadvantage in terms of developing scientific thinking and being open to diversity. They have a more instrumental view of their studies, seeing them as the route to better jobs (Fallon, 2007), whereas non-FGSs tend to see

education as a source of both personal and educational development (Pascarella et al., 2003; Fallon, 1997).

4.2 Theories and Explanations

We have already seen that the effect of FGS status on children's schooling and their pursuit of post-secondary studies is not a simple issue, so we want to revisit the various theories explaining academic inequality and the student path to find a basis for analysis. This section attempts to sketch, rapidly but not exhaustively, the theoretical explanations that might shed light on the effect of parents' schooling on access to and continuation of post-secondary studies.

4.2.1. Inequalities of Access to and Success in Post-Secondary Studies

“Cultural” theories differ from “individualist” theories with regard to, among other things, the type of explanation they offer for understanding the phenomenon of unequal educational opportunities. The theories outlined in this section give different explanations about inequalities of access to and success in post-secondary studies.

4.2.1.1. Cultural Explanations

Several factors have been identified that explain academic inequalities, but the theoretical trend that stands out from the others is that of cultural heritage (Forquin, 1979a, 1979b). As Bourdieu and Passeron put it: “Of all the differentiation factors, social origin is no doubt the one with the greatest influence in the student milieu ...” (Bourdieu & Passeron, 1964: 22). Although it is hard to show the causal connection, there seems to be a consensus that parental influence has a significant impact on the educational life of children (Forquin, 1982a). The influence centres primarily on parents' educational history, their opinions about their children's education and the cultural heritage they pass on.

A first way to theorize about this effect of parents' schooling on their children's educational path is to suggest, as do Bourdieu and Passeron (1970, 1964), that simply by having spent more than the average number of years on schooling, middle- or upper-class parents transmit to their children a cultural capital⁵³ and a set of behaviours known as *habitus*⁵⁴. The *habitus* that they pass on has many similarities to the educational content and scholastic excellence standards that push their children to succeed.

Another way to theorize about the effect of parents' schooling on their children's educational path is Bernstein's theory of socio-linguistic codes (1971). He says that the different social classes use different language registers—he calls them socio-linguistic codes—to which he attaches significant responsibility for the differences in their children's academic success. In the spirit of Bourdieu and Passeron (1970), he argues that schools arbitrarily choose the socio-linguistic code of the dominant class and that this can handicap, discourage and penalize students from lower classes.

These cultural-based explanations suggest that the playing field is not level for children from all social classes; that children from privileged classes generally succeed better, not because they are more gifted but because the academic milieu is for them just a continuation of family socialization; and that for children from less well-off backgrounds, schooling represents a clash with a culture that is partly foreign to their family experience but that they have to assimilate in order to achieve the best job and income possible. This type of explanation is quite widespread in the studies on FGSs we consulted (McCarron & Inkelas, 2006; Lohfink & Paulsen, 2005; Hahs-Vaughn, 2004; Pascarella et al., 2004, 2003; Duggan, 2002; Horn et al., 2000).

4.2.1.2. Individualist Explanations

For proponents of the theory of rational choice and methodological individualism like Boudon (1973), it is clear that the school bears no responsibility for academic inequalities. The authors look for

53. *Cultural capital* is made up of all the individual's cultural resources and tendencies (cultural property, degrees, relationship with culture and with the school) and differs depending on social class.

54. *Habitus*: a tendency to act, perceive and think a certain way, which the individual internalizes and incorporates over the years. Individuals are thus structured by their social context, by a set of rules, behaviours, beliefs and values peculiar to their background and inculcated through socialization.

explanations based on individuals, starting with the assumption that they are rational beings applying academic strategies. Boudon (1973: 105) represents all school systems as a set of bifurcating points, corresponding to orientation classes. At each bifurcating point, there would be a different perception of the chances of succeeding and getting a return on the educational investment, depending on the student's social origin. Academic skills being equal, the students' social origins would lead to different orientation choices. This phenomenon is based "on differentiating decision-making as a function of social position rather than cultural inequality" (Boudon, 1973: 117). Students' social origins therefore limit their decision-making horizon for economic, psychological and social reasons as much as for a socially differentiated interest in continuing to study.

Another type of explanation, similar to the one above, is the theory of human capital (Becker, 1964). The basic premise of this theory is that considered from the point of view of the individual, education is an investment. Individuals decide to invest in education when its value—i.e., financial return—exceeds the costs, which are tuition fees plus the shortfall. According to this theory, academic inequality would be the result of an erroneous rational calculation that skews the costs and advantages of investing in post-secondary studies; the calculation would be modulated by social origins, with the working classes much more likely to overestimate the tuition fees and underestimate the advantages of having a post-secondary diploma, so that they would be less represented at this level; the privileged classes, very familiar with both the costs and the advantages of post-secondary education, would decide to make the investment, and that would explain their strong presence in post-secondary education.

According to these individualist theories, the inequalities of access to post-secondary studies result from an accumulation of individual rational behaviours. Students decide whether or not to continue their education after making a socially based cost-efficiency analysis. Students and their families thus do not start off equal in terms

of educational investment opportunities: their perceptions of the various costs vary depending on their social origins. This type of explanation is rarely used in the FGS studies we consulted (Lohfink & Paulsen, 2005).

The cultural and individualist theories are often opposed. But as Andres (1998) points out, it would be preferable to stop looking at how these theories differ and search for common ground. It is true that students have to make choices when faced with a complex school system with coordinated elements. How are educational "decisions" really made? Are decisions made rationally, or do things just flow? What cultural and social resources do the individuals use in making educational choices? What analytical dimensions can encompass exceptional or unlikely directions? In other words, social and cultural origin can influence both the way the decision is made and the type of choice. It is therefore not accurate to speak of social determinism on the one hand and a decision-making process on the other.

4.2.2. Studies on Unlikely Paths (Access and Persistence)

The classic correlation between social origin and academic success need not lead to sociological fatalism. Along with the likely paths—academic success for SGSs; failure for students from underprivileged backgrounds—there are also some unlikely successes, reflecting either an upward process for FGSs or an educational downgrading for SGSs.

Researchers trying "to understand the reasons behind unlikely paths" (Lahire, 1994) take a somewhat micro-sociological approach and agree on the processes that stem from differences in daily life. For example, research on the approach to knowledge has been undertaken to explore the conditions that allow for unlikely school successes. The work of Charlot (1997) and Charlot et al. (1992) deals with students' approaches to knowledge and the meaning and value they place on school work. The studies show that students who succeed in school are those who manage to give meaning to school work—i.e., those who derive pleasure from intellectual work without expecting short-term concrete results. This

approach to knowledge occurs less frequently in underprivileged settings, because people are more concerned with day-to-day material survival, so they are more inclined to prefer useful over theoretical learning.

Other research (Lahire, 1995) focuses on what might account for either success or failure in underprivileged families. He concludes that a certain family ethos could make up for the lack of cultural resources within the family, such as the mother's ability to mobilize all the available social resources or her tight watch over her children's lifestyle.

Terrail (2001, 1995, 1990) also studied how poor families mobilize around school work. He found (2001) that when children from poor neighbourhoods have promising school careers it is due to a particular awareness of the issues and the development of ambitions over and above those of the social class average. Such families would also be able to bring in all available symbolic and practical resources, so their children could get a sustainable grounding and get on the best possible educational path. He points out, however, that although parents have to get heavily involved for the children to succeed, that is not enough. The family contribution will only work if it inspires and supports the child's autonomous activity "without trespassing on it." When trespassing happens, especially if the support becomes controlling and repressive, all family input is lost. Parental involvement is therefore a condition, not a cause, of success, and the student needs to show autonomy and determination. No matter how ambitious the parents are, there will be no success unless the students are actively involved in it.

These studies show that social determinism is not as all-powerful as it is thought to be and that other social dimensions also have to be considered. Apart from Pascarella et al. (2003), who pointed to a certain type of resilience that led FGSs to stay in school and graduate despite inherent unfavourable traits of their status, none of the research we consulted really tried to understand this "likelihood causality."

4.2.3. Dropping Out of and Persisting in Post-Secondary Studies

The preceding theories focused on access, but there are other studies that try to understand persistence and dropping out. This section discusses one of the most widespread theories on the subject, Tinto's theory of student integration.

Tinto (1975) suggests a theory of student integration that focuses on dropping out or staying in post-secondary studies. The theory posits that students enter university with certain characteristics (pre-admission, family background, personal traits, prior educational experiences) and certain goals. The institution offers its specific goals and commitments, and the student gains several experiences (both academic and social). Whether students integrate well into the new academic and social milieu depends on their characteristics. Both types of integration (academic and social) are determining, and they make students examine their intentions, goals and commitments to the institution. And it is precisely this re-examination of the fit between students' intentions and the conditions of the institutional environment that will lead to their decision to drop out or continue with the post-secondary course.

Interactionist theories like those of Tinto are based on the idea that the interaction between the student and the university surroundings has a determining effect on their staying in or dropping out of post-secondary studies. For Tinto (1992), concepts of integration and belonging to the community would be the underpinnings of the process of persistence in post-secondary studies. Tinto's integration theory is certainly the most widely used explanation in work on FGSs.

4.3. Summary

From the work we studied, FGS status appears to have a direct influence on children's schooling. But that effect is not isolated: it occurs in relation to other elements that all have a role in constructing the student path, depending on the ways of accessing studies and the nature of the post-secondary educational experience. We also need to better

understand how parents' schooling plays a role through various social mechanisms such as the way parents act, living conditions and individual character. In addition, such influence is not constant throughout the educational experience, as can be seen from a certain resilience in many FGSs.

At the theoretical level, cultural explanations stress that parents have a significant influence over their children's educational experience, stemming from their own school past, their opinions about education and, especially, the cultural legacy they pass on. Individualist explanations argue that

individuals make decisions moulded by their social origin and that this explains the differential in access of students from different social classes. And interactionist explanations suggest that a successful interaction between the student and the university milieu will play a determining role on persistence. However, although FGSs seem to start off in a situation that does not favour them continuing with post-secondary education, there is reason to believe (see the studies on unlikely successes) that many of them can overcome this "causality of likelihood" described by Lahire (1994).

Conclusion

Access to post-secondary education and the retention of new students have become a priority for modern, progressive societies. The purpose of this report was to ascertain, through the existing literature, how the concept of first-generation students (FGSs) initiated in the 1980s can help us discern and track significant differentiating traits among this non-traditional population within post-secondary institutions. Has the use of the FGS concept led to a better appreciation of the influence of parents' schooling on students' access, persistence and educational experiences?

We should start by pointing out a semantic difficulty. There are different definitions of the FGS concept, which is either stricter or less strict depending on whether it includes the schooling of both parents, the intensity of their post-secondary experience and the experience of siblings. It is even harder to define the non-FGS, since it is a residual and therefore multi-dimensional category.

An overview of a great deal of literature, especially in the U.S., leads us to the more general question of the relevance of various analytical tools in studying the impact of social origin and parents' schooling on how children pursue education.

While parents' schooling is traditionally studied on a continuous or semi-continuous basis in terms of years of study completed or academic level attained, the FGS concept dichotomizes this variable by assuming a discontinuity in the effect of the parents' higher education level and therefore a certain rupture that appears at the moment of transition from high school to post-secondary. The question is clear: Is the effect of parents' schooling one of degree or one of threshold, as the FGS/non-FGS dichotomy supposes? In other words, does the fact of being an FGS have a specific consequence on both access to college or university and the continuation of such studies at a level that is culturally remote from the family background? If we simplify a continuing variable in this way, does it

give us more than a merely proximal variable, albeit one that is attractive due to its evocative strength?

Unfortunately, our review of the literature does not provide definitive answers. Some studies show a real, statistically significant effect, but we cannot estimate its scope or discover whether it is one of the heavy variables of accessibility to post-secondary education. Other studies, while pointing out the complexity of the effect of parents' schooling, show that one of the major obstacles that FGSs face in making this transition or qualitative leap from high school to post-secondary is their parents' lack of experience or their parents' perception of post-secondary studies. That said, these observations are limited by the very nature of the data on FGSs, which deal retrospectively with access to post-secondary education. In order to be really in a position to ascertain the effect of FGS status on participation, we would need studies following those students from high school. And, of course, the effect of parental schooling is not a simple issue: although inequalities repeat from one generation to another, the research also shows atypical paths and "likely" exceptions due to several factors like motivation of lower-class parents, family ethos or the presence of corrective measures.

What of the persistence, continuation and academic success of FGSs who have made it into post-secondary institutions? The research shows that FGSs can generally be distinguished from non-FGSs in terms of their experiences all the way through post-secondary studies. That said, the FGS effect varies depending on the definition of non-FGS. There is little difference between FGSs and non-FGSs whose parents only had short post-secondary experiences, whereas the difference is much greater between FGSs and non-FGSs whose parents completed university, indicating a certain polarization of the parental schooling effect. It certainly comes as no surprise that parental schooling has a significant effect on grades, but this also has to be

weighed against the other factors at play: prior academic preparation, socio-economic conditions and how they lead to part-time work during studies, the student's ability—once admitted—to compensate for cultural heritage or social capital or the type of interaction between the student and the university setting. The differences between FGSs and non-FGSs tend to fade with time, as both categories continue their post-secondary paths.

In short, the factors that influence access are not necessarily the same as those that influence persistence.

The First-Generation Student: A System Indicator?

This review of the literature, as well as describing the real but limited contribution of this variable to the work on access to post-secondary education, has allowed us to explore how the FGS variable can serve as a legitimate indicator to monitor accessibility policies. Defined as “a student with neither parent having undertaken post-secondary studies,” could the FGS concept be a relevant tool for monitoring the education system and its accessibility?

We know that privacy protection policies have succeeded in removing traditional indicators of social origin from institutional statistics. This is done to ensure confidentiality, because detailed data on parental income or precise level of schooling could make it easier to identify individuals.

However, the FGS indicator, which is more general, could provide an interesting tool for institutions that are obliged to protect personal information. Easily administered, it could inject into

institutional statistics an indicator—composite, but differentiating—of academic accessibility from one generation to the next. Because the definitions of FGS vary, this would, however, require validating and operationalizing the most relevant threshold, both from a scientific perspective and a feasibility perspective, considering the known constraints of gathering data from institutional statistics. This kind of benchmark could then be proposed to decision-makers, as now happens in Europe, to ensure continuous monitoring of the accessibility of post-secondary, college and university establishments and also to track the educational upswing in our societies.

From that perspective, and not without reference to FGS work, Usher (2004) proposes an Educational Equity Index (EEI) that would be reliable, easy to calculate and understand and could beneficially replace family income, “race”/ethnic origin or parental socio-economic status as a yardstick. The index would be based on the ratio between the percentage of men aged 45 to 64⁵⁵ with university degrees in the general population and the percentage of university students whose fathers⁵⁶ have university degrees. The higher the EEI, the higher the rate of equitable participation in post-secondary education for that province or country.

This is an important issue in an egalitarian society—or in one that at least aims for equality. The endeavour to give everyone a fair chance at undertaking and completing post-secondary studies is now becoming a necessary investment. There is as yet no consensus on the different factors influencing the pursuit of that objective and the relevant tools to monitor its gradual attainment.

55. As a reasonable reference group for having university-age children.

56. It would be more interesting if such an indicator included the mother's degree attainment.

Higher Education in the United States

Institutions

According to 2004–05 data, there are 4,216 institutes of higher learning in the U.S. that grant degrees.⁵⁷ Of that number, 2,533 are four-year “colleges” offering undergraduate studies leading to a bachelor’s degree. Of these university colleges, 639 are public and 1,894 are private establishments.⁵⁸ American universities⁵⁹ have different educational objectives: some offer all three university levels and focus on research (“large research universities” or “small doctorate-granting universities”), others offer everything except doctorates (“comprehensive institutions”), while still others concentrate on undergraduate education (“baccalaureate institutions”).

As well as four-year colleges, the U.S. also has 1,683 community colleges,⁶⁰ which are institutes of higher learning that offer programs lasting a maximum of two years. These establishments, most of which are public (1,061), issue diplomas for completing one- and two-year programs, called certificates, diplomas and associate degrees. Community colleges offer technical or professional training, pre-university courses or continuing education for adults. Most of these community colleges attract their clientele from the local community (USNEI, 2008; NCES, 2006).

Background

The American supply of post-secondary education is not only large but also complex and selective. Its complexity resides mainly in the fact that individual states have responsibility over education. Each state decides its own criteria for earning a post-secondary diploma. In addition, “each of the 50 states is responsible for governing public colleges and universities (which enrol 75 percent of students) rather than the federal government” (Eckel & King, 2004, p. 3). The degree of control over post-secondary education varies enormously from one state to another; in some states, the universities have great autonomy (for example, the University of California and the University of Michigan), while in others there are education councils appointed by the governor to oversee all post-secondary institutions (Eckel & King, 2004).

Post-secondary education in the U.S. is also characterized by various levels of selectivity among institutes of higher learning: “American higher education includes institutions with a wide range of admission selectivity, from open-access two- and four-year institutions open to all students to highly selective research universities and liberal arts colleges that admit only a small fraction of those who apply” (Eckel & King, 2004, p. 8). Most of the students who want to pursue post-secondary studies

57. If non-degree-granting post-secondary institutions are included, the number increases to 6,383 (NCES, 2006).

58. The private establishments are either not-for-profit (1,525) or profit-making institutions (369).

59. In the U.S., the word “university” refers to the combination of undergraduate “university colleges” and superior or professional studies (e.g., law, medicine).

60. Sometimes also known as junior colleges.

apply to many colleges or universities and choose to enrol at one of the ones that accept them. The establishments base their choices on several academic criteria (among others: high school subjects, high school grade point average, class rank, ACT or SAT scores and non-academic traits such as leadership, creativity, volunteer work and involvement in extracurricular activities). According to a 1995 NCES study, only 5.9 percent of American students who had graduated from high school in 1992 met the criteria of the most selective American post-secondary establishments (Owings et al., 1995).

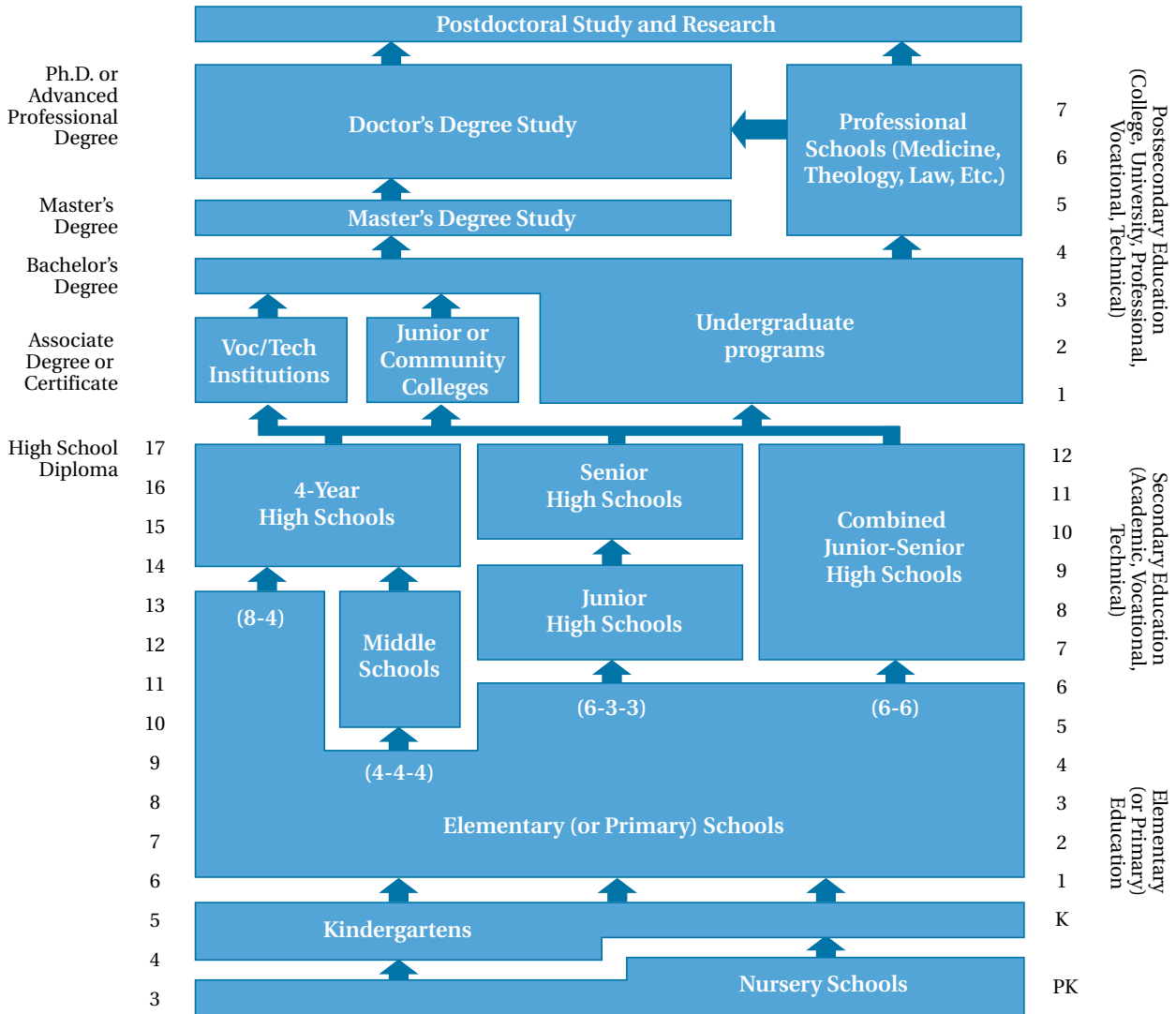
Students have to start preparing very early to apply to a highly selective post-secondary establishment, since their choice of high school courses can have an impact on their choice of university (Owings et al., 1995). However, a study published by the National Center for Postsecondary Improvement shows that most American high school students only have a vague idea of the courses required to go on to higher education: “Less than 12 percent of the students surveyed knew all the course requirements for institutions studied” (Venezia, Kirst & Antonio, 2003). Aside from this issue, their public school education does not usually let them attain the academic standards required for admission to a

four-year university college. There are significant gaps between public high school academic standards and university academic standards in many American states (Venezia, Kirst & Antonio, 2003).

Students who took enriched programs at high school (“accelerated curricular tracks” or advanced placement) are better informed and prepared to meet the requirements of universities, which is not the case for students in regular, or weak, programs (Venezia, Kirst & Antonio, 2003). In addition, some better-off parents who want their children to go to a very selective university hire counsellors specializing in university applications to find out the selection criteria of their chosen institution and thus ensure that their child’s application meets the various academic and non-academic requirements (Eckel & King, 2004).

Lastly, once enrolled, American students go through further placement and selection procedures. In some universities they have to take placement tests to see whether they will be able to meet course requirements. Although community colleges do not usually set entrance exams, the students they admit also have to take placement tests (Venezia, Kirst & Antonio, 2003).

Diagram of the American Education System



Note: Adult education programs, while not separately delineated above, may provide instruction at the elementary, secondary, or higher education level. Chart reflects typical patterns of progression rather than all possible variations.

Source: U.S. Department of Education, National Center for Education Statistics.

Source: NCES, 2006

Appendix 2

Methodology of Principal Studies Reviewed in Note 2

Authors	Methodology	Type of Analysis	Regression	Scale	Sample	Timeline	College Type
Lehmann, 2007	Qualitative	Interviews	*	Local	25 “dropouts”	*	4 year
Engle, 2007	Qualitative	Literature review	*	*	*	*	*
Ishitani, 2006	Quantitative	Survival analysis / Regression analysis for specific period	Yes	National	4,427 students registered at university between 1991 and 1994 (<i>NELS: 1988</i> and <i>NELS: 1988–2000 Postsecondary Education Transcript Study</i>)	1991 / 1994–2000 (5-year analysis)	4 year
McCarron & Inkelas, 2006	Quantitative	Chi-square analysis / Multiple regression	Yes	National	3,738 respondents (50% FGS, 50% non-FGS) from the <i>National Educational Longitudinal Study (NELS: 1988–2000)</i>	From 1988 to 2000 (follow-up 1990/92/94 and 2000) (12 years)	All types (2 and 4 year, public and private)
Dennis, Phinney & Chateco, 2005	Quantitative	Three regression models	Yes	Local	100 students (84 Latino, 16 Asian) registered for second year at a West Coast U.S. university in an (ethnically diverse) urban centre	Fall and spring (1 year)	4 year
Pike & Kuh, 2005	Quantitative	Multigroup structural equation models	Yes	National	1,127 bachelor's students who answered <i>College Student Experiences Questionnaire (CSEQ)</i>	First year of bachelor's	4 year
Chen & Carroll, 2005	Quantitative	Multivariate commonality analysis	Yes	National	7,400 students, i.e., 87% of all Grade 12 students who participated in 1992 <i>NELS</i>	1992–2000 (8 years)	All types (2 and 4 year, public and private)
Lohfink & Paulsen, 2005	Quantitative	Logistical regression	Yes	National	1,167 FGSs and 3,017 non-FGSs from <i>Beginning Postsecondary Students Longitudinal Study, 1996–2001</i>	Fall 1995 to fall 1996 (1 year)	4 year
Hahs-Vaughn, 2004	Quantitative	Structural equation modelling	Yes	National	Database used: <i>Beginning Postsecondary Students Longitudinal Study (BPS: 1990/92/94)</i> , part of <i>National Postsecondary Student Aid Study (NPSAS: 1990)</i>	*	4 year
Lee et al., 2004	Quantitative	ANOVA and logistical regression	Yes	Local	5,000 students at one of 9 Los Angeles community colleges	*	2 year (community)

Authors	Methodology	Type of Analysis	Regression	Scale	Sample	Timeline	College Type
Pascarella et al., 2004	Quantitative	Logistical regression	Yes	National	Original sample of 3,331 students at 18 representative 4-year colleges across U.S. (randomly selected)	1992 to 1995 (3 years)	4 year
Pascarella et al., 2003	Quantitative	Logistical regression	Yes	National (5 U.S. regions)	144 students at 5 U.S. community colleges in 5 different states	Fall 1992 to spring 1994 (2 years)	2 year
Naumann, Bandalos & Gutkin, 2003	Quantitative	T-test / correlation test / stepwise regression	Yes	Local	155 students in university foundations class at large Midwestern U.S. university; 36 FGSs and 19 non-FGSs	*	4 year
Ishitani, 2003	Quantitative	Survival analysis / Regression analysis for specific period	Yes	Local	1,747 students from cohort of new registrations at public Midwestern U.S. university in 1995	Fall 1995 to fall 1999 (5 years or 9 semesters)	4 year
Ayala & Striplen, 2002	Qualitative	Intervention program evaluation report	*	Local	Students registered in affirmative action program (<i>Educational Opportunity Program</i>) at California State University, Sacramento	3 semesters, from fall 2002	4 year
Duggan, 2002	Quantitative	Logistical regression model	Yes	National	<i>Beginning Postsecondary Students Longitudinal Study 1996/98</i> — new students included in 1995 <i>National Postsecondary Student Aid Study</i>	From first-year to second-year registration (1 year)	4 year
Filkins & Doyle, 2002	Quantitative	Least-squares regression	Yes	6 urban universities	1,910 students from 2001 <i>National Survey of Student Engagement (NSSE)</i>	2001	4 year
Penrose, 2002	Quantitative	T-test / chi-square analysis	*	Local	1) 2,766 students from North Carolina State's <i>1994 Freshman Orientation Survey</i> 2) 3,099 students from <i>1997 Orientation Survey</i> 3) 330 students responding to 1994 survey and <i>1998 Graduating Senior Survey</i>	Summer 1994, fall 1997 and 1998 (5 years)	4 year
Toutkoushian, 2001	Quantitative	Logistical regression models	Yes	Local	Transversal study of New Hampshire students who passed SAT and answered <i>Student Descriptive Questionnaire</i> (5,787)	March 1996	4 year

Authors	Methodology	Type of Analysis	Regression	Scale	Sample	Timeline	College Type
Choy, 2001	Quantitative	Multivariate analysis	Yes	National	Summary of 3 national studies: <i>National Education Longitudinal Study (NELS)</i> , <i>Beginning Postsecondary Students Longitudinal Study (BPS)</i> and <i>Baccalaureate and Beyond Longitudinal Study (B&B)</i>	<i>NELS</i> : every 2 years from 1988 to 1994 (6 years); <i>BPS</i> : 1989–90 and after in 1992 and 1994 and 1995–96 and after in 1998 (8 years); <i>B&B</i> : 1992 and after in 1994 and 1997 (5 years)	All post-secondary levels
Warburton et al., 2001	Quantitative	Multiple regression	Yes	National	<i>Beginning Postsecondary Students Longitudinal Study</i> – students who responded to <i>National Postsecondary Student Aid Study (NPSAS)</i> in 1995–96	1995–1996 and 1998 (3 years)	4 year
Horn & Nuñez, 2000	Quantitative	Logistical regression models	Yes	National	<i>National Education Longitudinal Study 1998</i>	Every 2 years from 1988 to 1994 (6 years)	4 year
Walsh, 2000	Qualitative	Evaluation program	*	*	*	*	*
Zalaquett, 1999	Quantitative	ANOVA	*	Local	839 respondents to survey administered by Sam Houston State University	Survey date and 3 years later	4 year
Brown & Burkhardt, 1999	Quantitative	Hierarchical multiple regression analysis	Yes	Local	653 first-year students at community college (volunteer sample)	Fall semesters from 1996 to 1998 (3 years)	2 year (community)
Hodges, 1999	Quantitative	Stepwise multiple linear regression analysis	Yes	Local	713 students from Wayne County College Student Information Database	First year of college, starting fall 1994	2 year (community)
Iman & Mayes, 1999	Quantitative	T-Test / Chi-square analysis	Yes	Local	4,620 students at 12 of 14 colleges in University of Kentucky Community College System	Fall 1996	2 year (community)
Nuñez et al., 1998	Quantitative	Weighted least-squares regression model	Yes	National	<i>Beginning Postsecondary Students Longitudinal Survey (BPS)</i> 1990/94 — new students included in 1990 <i>National Postsecondary Student Aid Study</i> and <i>Baccalaureate and Beyond Longitudinal Study (B&B)</i> : 1993/94 — bachelor's degree obtained 1992–93	<i>BPS</i> : 1989–90/92/94 (5 years)/ <i>B&B</i> : 1992–93 and 1994	All types

Authors	Methodology	Type of Analysis	Regression	Scale	Sample	Timeline	College Type
Fallon, 1997	Status report	*	*	*	*	Pre-college	*
Grayson, 1997	Quantitative	Stepwise regression / Regression tree (CART) analysis	Yes	Local	1,849 students at York University, Toronto	*	4 year
Terenzini et al., 1996	Quantitative	Ordinary least-squares multiple regression	Yes	National	Longitudinal study of 2,685 students at 18 4-year colleges and 5 2-year colleges; part of <i>National Study of Student Learning (NSSL)</i>	1992 to 1993 (1 year)	All types (2 and 4 year, public and private)
Koehler & Burke, 1996	Quantitative	Evaluation program	*	Local	*	*	2 year (community)
London, 1996	Qualitative	Interviews	No	National	*	Longitudinal ("multi-year")	2- and 4-year community colleges
Tulsa Junior College, 1995	Quantitative	Descriptive analysis	*	Local	1,579 new students at Tulsa Junior College for the academic year in which they responded to survey questionnaire	1994–95 academic year	2 year (community)
Riehl, 1994	Quantitative	T-Test / Chi-square analysis	*	Local	1,290 students at Indiana State University who took part in <i>New Student and Registration Program</i>	Fall 1992 to fall 1993 (1 year)	4 year
York-Anderson & Bowman, 1991	Quantitative	ANOVA	*	Local	201 respondents registered for orientation program (volunteer sample)	First week of a 4-week orientation program (no date)	2 year (community)
Barahona, 1990	Quantitative	Blocked stepwise regression	Yes	National	3,145 respondents (sub-sample of NCES's <i>High School and Beyond</i> , 1980)	1980, 1982, 1984, 1986 (6 years)	2 and 4 year
Pratt & Skaggs, 1989	Quantitative	Chi-square analysis	*	Local	1,035 students, including 278 FSGs (general administrative survey of first-year students)	September 1988	4 year
London, 1989	Qualitative	Interviews (life stories)	No	Local	15 respondents	*	Colleges and universities (not specified if 2 or 4 year, public or private)
Billson & Terry, 1982	Quantitative and qualitative	Statistical tests / interviews	*	Local	Survey: 701 respondents and interviews with respondents who persisted	*	Private and public colleges

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