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University Attainment, Student Loans, and Adult Life Course Activities: A Fifteen-Year Portrait of Young Adults in British Columbia

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Cette étude est basée sur les données du projet Paths on Life's Way, échelonné sur 15 ans. Nous y analysons l'incidence des prêts étudiants sur l'éducation et d'autres activités qui ont marqué la vie des participants au projet. Nous nous concentrons sur les macroforces qui ont influencé cette cohorte ; nous adoptons une perspective fondée sur le concept de « parcours d'une vie » et nous avons recours à l'analyse factorielle de correspondance. Nous établissons ainsi la nature, le choix du moment et la durée de diverses voies qui permettent de mener à terme des études universitaires, en lien avec le montant de prêts étudiants reçus et avec diverses étapes de la vie (le mariage, par exemple), réalisées ou non. Les résultats montrent la nécessité, en matière de politiques publiques, de mettre en place de meilleurs services d'orientation professionnelle, et, sur le plan des prêts étudiants, de créer des mécanismes qui permettent aux étudiants de prévoir l'aide dont ils auront besoin pour ainsi planifier des études universitaires sans s'endetter de façon excessive.

We employ the 15-year longitudinal Paths on Life's Way database to examine the relationship between student loans and educational and other life course outcomes. By framing the study within the macro structural and policy forces affecting this cohort, then adopting a life course perspective and employing correspondence analysis, we identify the nature, timing, and duration of various paths to university completion in relation to the amount of student loans incurred and participation in other adult life activities (e.g., marriage). Implications for policy include the need for stronger counselling services and for loan schemes that provide predictable assistance measures to allow for university planning and relief against unreasonable debt loads.

Who Goes? Who Stays? What Matters? Accessing and Persisting in Post-Secondary Education in Canada, eds. R. Finnie, R.E. Mueller, A. Sweetman, and A. Usher. Montreal and Kingston: McGill-Queen's University Press, Queen's Policy Studies Series.

Introduction

Among the multiple elements that conspire to facilitate or prevent post-secondary participation and completion, this paper focuses on three macro forces in relation to a cohort of youth in British Columbia as they left high school and negotiated the next 15 years of their lives. First, we locate the analysis in the policy debate beginning with the Access for All initiative in B.C. in the mid-1980s. Second, we highlight the B.C. student financial assistance program available to students as they left high school in 1988 in relation to tuition fees, and document how this program evolved over time. Third, we describe the changing nature of the B.C. post-secondary system from the 1980s onwards. As we examine how these elements likely impacted the post-secondary educational opportunities, experiences, and outcomes of this group, our conceptual focus changes to a life-course perspective. Taking into account characteristics such as social class, gender, and geographic location, we reveal the different paths taken by individual lives.

Capturing the ongoing dance between structure and agency across time is a major challenge. Over the span of 15 years, nothing remains static, and many changes have occurred in post-secondary structures, policy agendas and directions, and the individuals themselves as they matured and took on adult roles.

The Paths on Life's Way database used as the basis for this study was initially part of an endeavour in the 1980s in the province to further understand post-secondary participation and completion patterns. In 1989, the British Columbia Research Corporation and the British Columbia Institute of Technology, under contract with the Ministry of Education and the Ministry of Advanced Education and Job Training, undertook a survey of new Grade 12 graduates. Two of the primary purposes of this survey were to "collect fundamental, student-based information" (British Columbia Research Corporation, 1990, 2) and "to investigate reasons why students choose to go, or not to go, to post-secondary education" (4). This baseline study was transformed into the Paths on Life's Way longitudinal project (Andres, 2002a; 2002b; 2002c; 2002d).

British Columbia Access Policy

In the mid-1980s, educational policy-makers in B.C. were troubled by the low numbers of young people making the transition from high school to post-secondary education and, in particular, the low transition rate to university. The Report of the Standing Committee on

National Finance (1987) indicated that of all of the provinces in 1985-86, British Columbia had the lowest proportion of students directly entering university. Of this total cohort, 29 percent continued on to community college, and 17 percent entered university; in other words, 55 percent of those graduating from high school did not continue directly to post-secondary studies. In contrast, other provinces had much higher transition rates (i.e., Ontario at 32 percent for community college and 25 percent for university).

The structure of post-secondary education in British Columbia could account for some of these differences. Even in the 1980s, students were able to complete one or two years of university-equivalent courses at community colleges, thus lowering the numbers entering university directly. However, in Alberta, with similar post-secondary transfer arrangements and the second lowest transition rate to university, 27 percent of high school graduates continued directly to university. This figure was much closer than that of British Columbia to the national average of 29 percent.

In the 1980s, transfer rates between community colleges and universities in B.C. were also considered problematic. Of the Grade 12 graduates in the province who entered the post-secondary system in the 1985-86 year, 64 percent entered community colleges and 36 percent directly entered universities (Standing Senate Committee on National Finance, 1987). In 1985, the estimated total transfer rates from British Columbia community colleges to universities ranged from 14 to 51 percent with a median rate of 29 percent (B.C. Ministry of Advanced Education and Job Training, 1987). Degree completion rates of students transferring from college to university were estimated to range from 8 to 32 percent, compared with 29 to 56 percent for those students directly entering university (10). The Ministry of Advanced Education and Job Training (1987) concluded that "on average less than one in four full-time students who begin college academic programs can expect to end up with a first degree. Looking at it another way, those who begin studies at university have twice the chance of completion as those who begin college" (11).

These concerns led to a governmental review from which the Provincial Access Committee was established. This committee produced the report *Access to Advanced Education and Job Training in British Columbia: Report of the Provincial Access Committee* (1988) which, in turn, led to the establishment in 1989 of Access for All – a six-year, $690 million fund targeted at expanding access to all types of education throughout the province. The impact of this report is arguably second only to that of the MacDonald Report (1962) in changing the face of post-secondary

education in British Columbia. Its focus on access in the broadest sense resulted in dramatic structural changes such as the establishment of five university colleges. In addition, the B.C. Council on Admissions and Transfer (BCCAT) was created and given a mandate to ensure that the various post-secondary institutions worked together as an integrated and coordinated system (Andres and Dawson, 1998).

The B.C. Provincial Access Committee (1988) questioned the extent to which the province's post-secondary system provided equitable opportunities for successful degree completion. They pointed out that quotas were placed on both the number of students admitted to universities and the number of transfer students accepted from colleges. Thus, those who were currently overrepresented in the community college system were the most likely to be affected by these policies. This finding supported claims in the research literature that community colleges only exacerbated the problem of less equitable outcomes for disadvantaged youth. As Karabel (1986) lamented, "the implications of this pattern of overrepresentation – one in which individuals from working-class and minority backgrounds tend to be concentrated in the very institutions that offer them the least chance of obtaining a bachelor's degree – are sobering" (17). Others commented on the paradox of the increasing availability of post-secondary places together with a concomitant escalation of competition for, in particular, university places (Coleman and Husén, 1985).

In subsequent reports over the years, attention was directed toward the relationship among the economy, the post-secondary system, and the labour market. These reports focused on topics ranging from structural unemployment as a result of the shifting economy (*An Analysis of Career, Technical, Vocational and Basic Training Needs in British Columbia,* 1989-93), the qualification/skills gap (*Access for Equity and Opportunity,* 1992), skills (*Skills Now: Real Skills for the Real World,* 1994), and skills and employability (*Training for What?*, 1995). However, it was the focus on equality of opportunity of access – based on theories of human capital and social justice that drove the dramatic expansion of post-secondary education in Canada and B.C. – that probably had the greatest impact on the B.C. high school graduating class of 1988.

British Columbia Student Financial Aid and Related Tuition Policies

In contrast to extensive attention to issues of access and transfer, in the 1980s the B.C. student financial aid system was in disarray. In 1984, the provincial grant portion of available financial aid was eliminated and

replaced by the B.C. Student Loan (*Review of BC Student Assistance and Barriers to Post-Secondary Participation: Final Report*, 1992). As a result of this change and related meagre loan remission policies, until 1987 British Columbia ranked tenth among the provinces in financial aid expenditures per full-time enrolment (Table 1). In 1987, a new student financial aid scheme was adopted, which included equalization grants to students during their first two years of study, supplementary grants for students in college preparatory programs, and an improved loan remission program. As a result of these changes, B.C. moved from tenth to sixth place in terms of financial aid expenditures per full-time enrolment (Table 1). It was this student financial-aid milieu that confronted the Class of '88.[1]

TABLE 1
Provincial Student Financial Aid Expenditure per Full-time Enrolment ($)

	1985-86	*1986-87*	*1987-88*	*1988-89*	*1989-91*	*1991-92*
British Columbia	81	52	345	522	622	735
British Columbia[a]	NA	45	394	574	637	NA
Alberta	1,141	1,465	1,550	1,595	1,389	1,227
Saskatchewan	548	981	567	853	988	1,660
Manitoba	294	374	386	676	733	726
Ontario	489	547	609	606	607	626
Quebec	776	672	656	642	656	834
New Brunswick	555	558	617	738	811	850
Nova Scotia	395	372	382	419	444	482
PEI	725	816	816	731	776	818
Newfoundland	521	643	803	751	903	1,028
Yukon[b]	10,898	15,365	9,440	6,914	6,830	8,418
NWT[b]	10,639	16,718	15,392	16,750	14,893	17,500
Canada	553	648	673	753	793	899

Notes:
[a]Provincial figures use the B.C. government definition of post-secondary education, which differed from that of Statistics Canada; hence the two entries for B.C.
[b]Yukon and NWT data were not used to calculate the Canadian averages.

Source: *Review of BC Student Assistance and Barriers to Post-Secondary Participation*, 1992, 59.

However, student aid policies did not remain static. In 1992, a 15-member committee was appointed by the Minister of Advanced Education to review the B.C. Student Assistance Program, identify financial and other barriers to post-secondary participation, and recommend improvements to the existing scheme (*B.C. Provincial Access Committee*, 1988, i). Despite putative improvements, the committee identified

numerous problems. In particular, it highlighted how equalization payments, loan remission, and timely completion policies created hardships for "mature students, ... single parents, students with disabilities, and educationally disadvantaged students" (1988, 11). In addition, the committee described the B.C. student financial aid scheme as "a complex, very difficult-to-understand web of programs" (5) that students, parents, and "even professionals in the student aid field" (11) struggled to comprehend. The final report in 1992 advanced 173 recommendations to improve the existing system; of these, 80 were flagged as priorities.

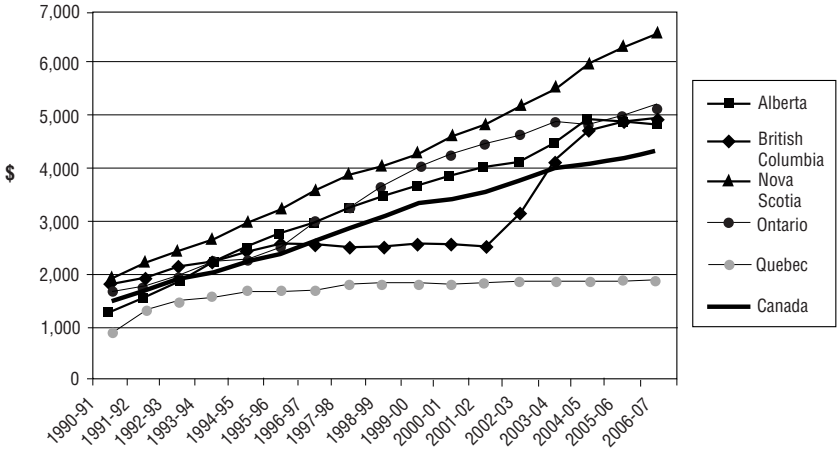
In 1997, the committee chair wrote a "report card" to assess the extent to which the recommendations had been implemented. Orum (1997) reported that although a few improvements to the system (e.g., more flexible repayment arrangements with lending institutions; reduced turnaround times in processing loan remission applications) had been implemented, the vast majority of recommendations were not endorsed. Moreover, some changes implemented by the B.C. government, such as limiting loan remission to apply only to B.C. student loans, further reduced the extent to which students could be relieved of onerous debt loads.

Between 1988 and 2003, both the Canada Student Loans Program and what is now called StudentAid BC evolved. Despite an announcement in the 2004 provincial budget that student grants would be eliminated and replaced with an enhanced student loan scheme (Malcolmson and Lee, 2004, 16), a limited and for the most part specifically targeted grant program is still in place. In addition, since 2000, bursaries have been available through the Canada Millennium Scholarship Foundation for full-time undergraduate students who have successfully completed at least 60 percent of a year of post-secondary studies and are eligible for student financial assistance in their province or territory of residence (http://www.millenniumscholarships.ca/en/index.asp).

B.C.'s Tuition Fee Policy

As the Class of '88 was about to embark on post-secondary studies, tuition fees in B.C. posed a constraint to access. In 1990 the median domestic undergraduate tuition fees in Canada were $1,545, ranging from a low of $904 in Quebec and a high of $1,941 in Nova Scotia. In B.C. this figure was $1,808. Within five years, tuition rates in B.C. had increased by 25 percent to $2,563. In 1996-97, in an attempt to enhance access to the post-secondary system, the provincial government imposed a freeze on tuition fees. This freeze remained in place until 2002-03; since then, tuition rates have risen steadily (Figure 1).

FIGURE 1
Undergraduate Domestic Tuition Fees for Full-time Students by Selected Provinces, 1990-2007



Source: Statistics Canada, 2005; 2006; 2007.

Structure of the B.C. Post-Secondary System

Finally, the evolving structure of the B.C. post-secondary system must be considered when examining issues of student financial aid policies in relation to post-secondary participation and completion rates. In the late 1980s, B.C. students leaving high school had a wide array of available post-secondary choices. As Table 2 demonstrates, the post-secondary system was extensive, highly diversified, and advanced in terms of inter-institutional articulation. In 1988 the system included four public universities, one private university, 15 community colleges, four public institutes, an Open University, an Open College, and hundreds of private colleges and trade schools.

However, like student financial aid and tuition fees, the structure of the system did not remain static. Over a 15-year period, both the structure and the nature of post-secondary institutions and the number of available seats changed dramatically. The figures in Table 2 indicate overall expansion of the system, increased numbers of institutions awarding university degrees, and increased inter-institutional transfer. According to Malcolmson and Lee (2004), between 1991-92 and 2003-04 the number of full-time equivalent spaces in B.C. colleges and universities increased by 42,700, an increase of 38 percent (7). Enrolments

TABLE 2
The B.C. Transfer System

	1989-90	*2000-01*	*2004-05*	*2005-06**
Public post-secondary institutions	23	28	26	26
Public degree granting institutions	4	14	15	17
Out of province public institutions	1	1	1	1
Private degree granting institutions	1	1	3	4
Private non-degree granting institutions	3	3	3	3
Total institutions in the transfer system	27	33	33	34
Number of "sending" transfer courses	5,000	7,254	7,921	**8,757**[a]
Number of current transfer equivalencies	16,000	47,000	57,520	**55,656**
Number of transfer agreements per course	3.2	6.5	7.3	6.4
Number of grandparented transfer agreements			27,506	**36,208**[b]
Documented block transfer agreements	N/A	600	774	**759**
Associate degree block transfer		N/A	N/A	
Number of changes made to the database		20,234	**9,721**[c]	

Notes:
[a]As of 31 March 2006.
[b]With an end-date prior to 31 March 2006.
[c]Compares to 6,427 in 2002-03; 7,227 in 2003-04.

Source: Gelin, 2006.

at universities grew from 49,482 in 1990-91 to 71,134 in 2003-04, representing an unweighted increase of 44 percent or a weighted increase of 51.4 percent.[2] At first glance, such expansion could be interpreted as a positive development for enhancing post-secondary participation. However, during this period, funding support for B.C. students decreased by a total of 17.3 percent (unweighted) or 21.4 percent (weighted). Translated into constant 2003 dollars, funding declined from $11,374 per student in 1990-91 to $9,407 in 2003-04, a drop of almost $2,000 per student (10). As Malcolmson and Lee point out, although the B.C. post-secondary system experienced enormous expansion throughout the 1990s, the extra seats created were not adequately funded. They conclude that "provincial policy may reduce one barrier to accessing post-secondary education while simultaneously increasing another barrier (the financial cost of attending)" (8). As Finnie (2005) demonstrates, understanding the capacity / demand / funding nexus is critical.

It is within these evolving sets of policies, practices, and institutional changes that we examine the post-secondary trajectories of the Class of

'88. Rarely are we able to take a 15-year retrospective look at the life trajectories of individuals with the intent to inform our current educational policies and practices. Few studies exist that assess the impact of policies such as student financial aid on educational and occupational outcomes in relation to both the factors affecting those outcomes (e.g., gender, academic capital, socio-economic status, and geographic location), and the adult life events (e.g., marriage, family, home ownership) affected by these factors.

However, conducting analyses of longitudinal data presents considerable conceptual and methodological challenges. Most often, structures are treated as unchanging, which clearly is not the case. In addition, study participants age, get married, have children, become mature students; structures and related policies will have different impacts on those passing through the system at different times. To take up this challenge, we employ a life course framework. First, we specify our research questions, followed by a brief overview of a life course perspective used to address these questions.

Purpose

In this empirical structural study, we employ Paths on Life's Way longitudinal data to examine the interrelationships among background characteristics, post-secondary educational participation and attainment, student financial assistance (i.e., student loans), labour force participation, and adult life course activities. We address the following research questions:

- Who was eligible for university studies (i.e., gender, social class), and how did this relate to the post-school status of respondents one year after high school graduation?
- What were the educational attainment levels of young women and men over a 15-year period following high school graduation? What are the costs incurred by those who obtained a university education?
- How are the timing and sequences of paths taken to obtain a university degree related to various individual factors? How are they related to the level of student debt incurred?
- How are various paths to university completion associated with family background, eligibility for university, student debt incurred, educational attainment, timing of marriage and parenthood, home ownership, and job characteristics 15 years following high school graduation?

In other words, how can 15 years of data on education, work, debt load, and other life events of British Columbian youth contribute to a better understanding of the current post-secondary trends?

Conceptual Framework

We adopt a sociological life course perspective to address the questions listed above. Rather than examining changes in one or more dependent variables in relation to a fixed set of independent variables, we endeavour, as Hunt (2005) specifies, to "attempt to comprehend the human experience in terms of the institutional context . . . or the 'processes' which forge the lives of individuals, and the life chances and opportunities of particular social constituencies" (7). The following concepts are central to this approach: individuals as agents and their related "choices"; social structure; "linked social lives" such as "family, education, and work" (23); and the "timing of lives," which Hunt defines as "a strategic adaptation to external events and the resources available to an individual" (23).

The transition from adolescence to adulthood depends on the interplay of given characteristics of individuals and the demographic, economic, social, and cultural contexts through which they pass. As we described above, from a structural perspective, the ways in which society and its related institutions are constructed, organized, and defined in successive periods provides the macrosociological context for studying the life courses of individuals. Cohort characteristics (e.g., the generation to which they belong), government policies related to education and the labour market, public sentiment toward education and work, changing conceptions of the family, economic conditions such as recession and unemployment, and the changing structure of the educational system and labour market all shape transitions from one life stage to another.

To understand the impact of social institutions and structures on individuals' lives, we need, as Hodgkinson (1985) asserts, to begin to examine social institutions from the perspective of the people who move through them. Social theory and the life course literature highlight the dynamic relationship between macrosocial and cultural forces and contexts and individuals as purposive actors (Bourdieu, 1990; Giddens, 1984; Hunt, 2005). These theoretical perspectives provide us with the conceptual tools to expand and deepen our understandings of how individuals seize, ignore, or resist opportunities and how they are constrained by structures, policies, and practices of the larger society. To

detect the impact of a given set of social forces on a given cohort at both the micro and macro levels, it is essential to conduct analyses across time. This requires the availability of databases that lend themselves to analyses of cohorts.

Research Design

The longitudinal data sets of Paths on Life's Way include information on education, careers, and family formation patterns of female and male high school graduates of the British Columbia Class of '88 who answered four follow-up surveys (Andres, 2002a; 2002b; 2002c; 2002d). A total of 733 respondents (60 percent of them women) answered all four waves of surveys (administered in 1989, 1993, 1998, and 2003), which represents about 3 percent of the entire Class of '88 graduates. Over time, the sample has been affected by attrition, with a slight bias toward women and respondents coming from more educated backgrounds and with better high school performance. However, overall, the longitudinal sample remained remarkably representative of the original respondent group (Andres, 2002a). Hence, the results of this study represent the best-case scenario in terms of education and work, which suggests that the findings are even more relevant in explaining existing social inequities in schools, post-secondary institutions, and the labour market.

Variables

Although post-secondary participation, credentials obtained, and occupations are recorded year by year, for the purpose of this study only the 1989 post-secondary destinations and highest credentials earned by 1993, 1998, and 2003 are employed. The variables are introduced briefly in this section.

High school achievement is directly related to respondents' chances of continuing post-secondary education. Grade point average (GPA) scores and eligibility for university admission are measures of achievement during the senior high school years. These indicators from student high school records were matched with survey data and used in the current analysis.

Post-secondary participation one year after high school graduation is an indicator of purposeful planning, fulfilment of requirements, aspirations to continue to post-secondary education, and availability of resources. Respondents are classified into three groups: non-participants, non-university participants (i.e., those attending

community colleges, institutes, or university colleges), and university participants. Educational attainment by 1993, 1998, and 2003 refers to the highest credential earned by respondents at five, 10, and 15 years since high school graduation. We distinguish five categories: non-participants, non-completers (i.e., those who attended but did not obtain any credential), those who possess non-university credentials, those who completed bachelor's degrees, and those who obtained first professional or graduate degrees. Most of the analyses are conducted with university graduates (N=433) only – the last two groups described above. We further divide the sub-sample of university graduates into three groups: those who obtained bachelor's degrees by 1993 (early bachelor's), those who obtained bachelor's degrees after 1993 (delayed bachelor's), and those who obtained degrees beyond the bachelor's level (graduate degrees). We anticipate that the timing and/or duration of university completion is strongly related to financing and student loans.

The focal variable of the study is the government student loan. First, we determine whether students have government student loans, and second, the amount of student loans received over time. We anticipate that various social and cultural factors affect the way individuals manage the funding of their university studies. Other financial burdens that occur over life course (e.g., buying a house) are included in the study. In addition, the analysis includes whether respondents are married and have children (yes/no) by 2003.

Occupational status is the current or most recent job held by respondents in 2003. Three categories of occupational prestige have been derived by aggregating the Pineo-Porter-McRoberts (Pineo and Goyder, 1988) socio-economic classification of occupations scale of 16 prestige categories. We distinguish occupations as unskilled and semi-skilled, technical and skilled, and management and professional.

Methods of Analysis

In the first analysis, we provide an overview of post-secondary participation and completion rates of the Class of '88 longitudinal sample, and of student loans incurred by respondents within five, 10, and 15 years after high school graduation. University completion and student financial assistance information is analyzed in relation to gender and family background.

In the second analysis, we employ correspondence analysis to unveil the associations among university completion paths (i.e., differentiated by level of education and timing), student loans, individual character-

istics (e.g., gender, high school academic capital), family background (e.g., parental education, geographical location), and other life circumstances (e.g., marital status, parenthood, home ownership, job characteristics) of university graduates from the high school graduating class of 1988. We conclude this analysis with a descriptive profile of those who graduate from university with and without student debt.

Correspondence Analysis Method

Correspondence analysis (CA) is the most effective analytical technique to describe data patterns and explore relations among the categorical data of the Paths on Life's Way Project. This multivariate technique analyzes two-way contingency tables in which columns correspond to the variable to be explained (e.g., university completion paths) and rows correspond to various explanatory variables (e.g., gender, parental education, high school academic capital). It offers a visual representation of the data distribution in a two-dimensional CA map where points correspond to each category (row or column profile) of variables included in the analysis (Greenacre, 1993). The location of these profiles in a multidimensional space is computed from data in contingency tables, and the dispersion of profiles is described by a variance-type measure called *inertia*. Correspondence analysis is viewed as a method for decomposing the overall inertia along principal axes. The CA map used for analysis is usually based on the pair of principal axes that explain the largest amount of inertia. Because there are no dependent variables in CA, no causal claims on relationships are made. We used XLSTAT to compute the chi-square coordinates of profile points and the statistical tests of the analysis. Elsewhere we offer more details on the use of this method in analyzing educational data (Adamuti-Trache and Andres, 2008; Andres, Adamuti-Trache, et al., 2007).

For the purpose of this paper, we refer primarily to the so-called *dimensional* or *factor-analytic* interpretation of the map that examines the most likely row or column profiles aligned along principal axes in order to identify a latent "hidden" variable along each axis, and then establish how other sets of profiles are associated with this structure. Additional CA tests obtained with XLSTAT provide exact information on the contributions of row and column profiles to inertia that support the *factor-analytic* interpretation. Occasionally we use a *descriptive* approach to identify similar categories corresponding to sets of points that are close on the map, and contrast them with dissimilar categories corresponding to points situated far apart from each other.

Findings

We begin with a descriptive analysis of the variables described above. We then employ correspondence analysis to examine relationships among the variables.

Analysis 1[3]

The post-school status of high school graduates is only partially determined by their educational histories as reflected in overall school assessments of eligibility for university education. Table 3 demonstrates that within about one year following high school graduation only 50 percent of those who were eligible to commence study at a university actually did, while 40 percent enrolled in non-university institutions, and 11 percent did not participate in any post-secondary studies. Percentages differ by gender, with eligible men more likely to enrol in university (i.e., 59 percent of men vs. 43 percent of women). Among those not eligible for university, there are also clear gender differences. Whereas 63 percent of women attended community colleges and institutes, only 51 percent of their male counterparts chose this route. Also, larger proportions of men (41 percent) than women (28 percent) in this group were post-secondary non-participants in 1989. A small proportion of women (9 percent) and men (8 percent) attended university studies even though they were assessed as non-eligible based on their high school performance.[4]

TABLE 3
University Eligibility versus 1989 Post-School Status by Gender

1989 status	*Eligible for university*						*Non-eligible for university*					
	All		*Female*		*Male*		*All*		*Female*		*Male*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Non-participant	47	11	31	12	16	9	95	33	47	28	48	41
Non-university	178	40	120	45	58	32	167	58	108	63	59	51
University	221	50	116	43	105	59	25	9	16	9	9	8

Note: Rounding up produces a total greater than 100 percent.

Source: Authors' compilation.

When contrasting post-secondary participation within one year after high school graduation with parental educational attainment, it is

evident that respondents with university-educated parents were more effective than those with non-university educated parents in turning eligibility for university into university enrolment. According to Table 4, 61 percent of the former group enrolled in universities compared to 44 percent of the latter group. Even if they were eligible for university, 45 percent of individuals from families where one or more parent had not completed university enrolled in non-university institutions. Among those not eligible for university, respondents with educated parents were again more likely to participate in either non-university (65 percent) or university (14 percent) institutions. In contrast, lower proportions of those with non-university educated parents enrolled in non-university institutions (58 percent) and universities (8 percent). Respondents with non-university educated parents who were not eligible for university were the most likely to be non-participants (35 percent) one year after high school graduation.

TABLE 4
University Eligibility versus 1989 Post-school Status by Parental Education

1989 status	*Eligible for university*				*Non-eligible for university*			
	Parents – no univ		*Parents – univ*		*Parents – no univ*		*Parents – univ*	
	N	*%*	*N*	*%*	*N*	*%*	*N*	*%*
Non-participant	29	11	14	9	70	35	13	21
Non-university	116	45	50	31	116	58	41	65
University	113	44	99	61	15	8	9	14

Notes: The Ns in Tables 3 and 4 differ due to missing data on parental education.
Source: Authors' compilation.

These analyses indicate that social class (i.e., parental education), gender, and academic ability as measured by eligibility for university played a significant role in the paths chosen by high school graduates. Although women and men were equally eligible for university (i.e., about 60 percent), more women tended to enrol in community colleges and institutes directly after high school graduation. Similarly, even if they were eligible for university, students with non-university educated parents were more likely to commence their studies at non-university institutions such as community colleges. Although high school academic histories as reflected by eligibility for university had a strong influence on respondents' post-school choices, other factors also influenced whether and where respondents continued to study at post-secondary

institutions. These findings confirm that there is a relationship between university participation and family background (Drolet, 2002) and support the concerns raised by the B.C. Provincial Access Committee (1988) regarding equitable opportunities to attend university for disadvantaged young adults. This suggests that "reserves of talent" (Härnqvist, 1978) remained untapped.

The "one year out of high school" picture changed over time, and the question is whether government student assistance programs had any impact on this change. Indeed, the proportion of B.C. young women and men who completed post-secondary studies increased considerably over the 15 year period following high school graduation. By 2003, 59 percent of all respondents (N=733) obtained university degrees (i.e., 37 percent obtained bachelor's degrees and 22 percent professional and graduate degrees). Only 4 percent of respondents had never participated in post-secondary education, 9 percent did not complete their studies by 2003, and 27 percent obtained only non-university credentials. This distribution suggests a high educational profile for this sample, with 96 percent having participated in post-secondary studies and 59 percent obtaining university degrees. As Figures 2a and 2b reveal, the change in educational attainment occurred primarily within the first 10 years or less after high school graduation.

The 1993 and 1998 pictures are very different, showing that women were likely to complete university degrees in a more timely fashion than men. In 1993, 35 percent of women versus 28 percent of men obtained bachelor's degrees or higher, with only 5 percent of women versus 9 percent of men not yet participating in post-secondary education. By 1998, more men than women were non-participants (i.e., 6 percent vs. 4 percent) or non-completers (i.e., 15 percent vs. 11 percent). However, university completion was quite similar for men and women (i.e., 55 percent and 56 percent), and results did not change dramatically between 1998 and 2003.

Elsewhere (Andres and Adamuti-Trache, 2006) we have specified the variety of educational trajectories followed by this longitudinal sample – in part, as a consequence of a highly articulated post-secondary system in B.C. that allows individuals to tailor their educational journeys according to their life circumstances. In principle students are not constrained by their original choices and can negotiate their way through the system. Overall we notice that the proportion of respondents who completed non-university credentials at community colleges and institutes varied slightly, with most of the change occurring with increasing proportions of female and male respondents completing university degrees. Since university education is associated with more significant

costs, we focus our attention on determining to what extent financial issues affected university completion. What were the costs incurred by those who obtained a university education and how were they intertwined with the dynamics of completing a university degree? The research sample consists of those who obtained a bachelor's degree or higher by 2003 (N=433, 60 percent women), from which sub-samples are selected to analyze the 1993 results (N=242, 65 percent women) and 1998 results (N=409, 60 percent women).

FIGURE 2a
Highest Educational Attainment – Females

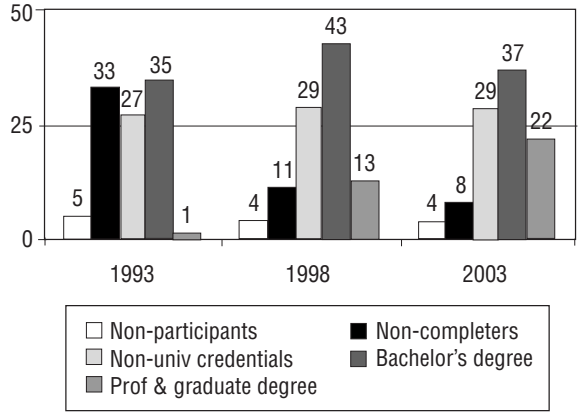
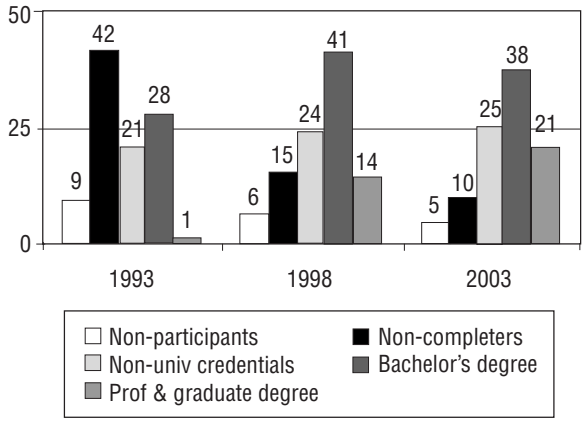


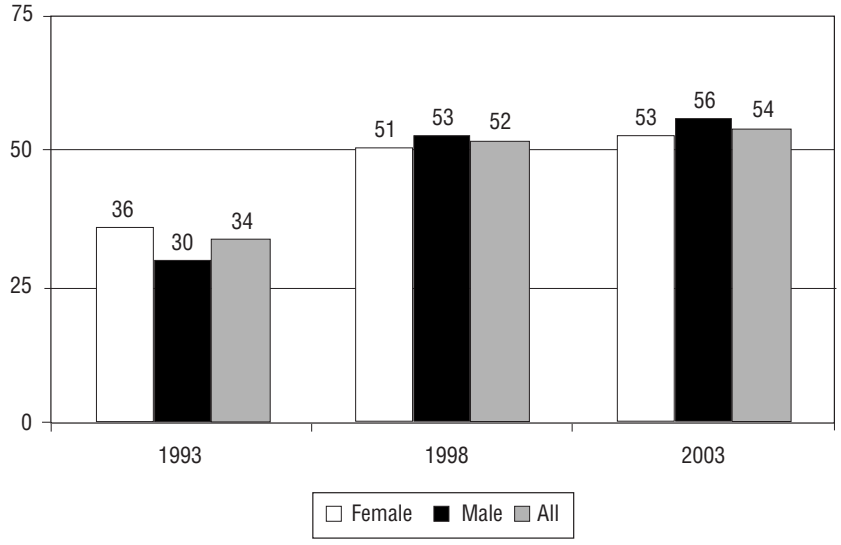
FIGURE 2b
Highest Educational Attainment - Males



Source: Authors' compilation.

By 1993, about 34 percent of all university graduates received government assistance and other financial aids to fund their post-secondary education. As Figure 3 shows, this proportion increased to 52 percent by 1998 and to 54 percent by 2003. There are slight differences by gender. More female respondents (36 percent), who were more likely to start and complete education earlier but were also more likely to commence their studies at non-university institutions, borrowed money by 1993. The comparable figure for men was 30 percent. By 2003, 56 percent of men and 53 percent of women who obtained university degrees reported that they had taken out student loans.

FIGURE 3
Proportion of University Graduates with Student Loans



Source: Authors' compilation.

The substantial increase in the number of students who relied on government financial assistance occurred before 1998, within 10 years after high school graduation. Table 5 portrays the proportion of those who took out student loans and the total debt load accumulated over time by those who graduated from university by 2003. For all respondents, a 71 percent increase in median amounts of borrowing occurred between 1993 (i.e., $8,200) and 1998 (i.e., $14,000), with an additional 30 percent increase between 1998 and 2003 (i.e., $18,000).

TABLE 5
Median Debt Load from Student Loans and Amount Owed in 2003

	Median debt load by each year									*Still owing*		
	By 1993			*By 1998*			*By 2003*			*2003*		
	N	*%*	*$*	*%*	*N*	*$*	*N*	*%*	*$*	*%*	*N*	*$*
Female	55	69	9,500	125	61	15,000	138	59	18,000	34	53	15,000
Male	25	31	6,900	81	39	13,500	95	41	18,000	30	47	10,000
All	80	100	8,200	206	100	14,000	233	100	18,000	64	100	11,500

Source: Authors' compilation.

Although debt incurred in the first stage until 1993 is related to the costs of completing a bachelor's degree, higher costs that occur in later stages are likely to be related to either pursuing graduate studies or to delayed or prolonged study. By 2003, regardless of gender, the median debt load for those with student loans was $18,000. Of the total of 233 university graduates who borrowed money, about 73 percent (i.e., 75 percent of women and 68 percent of men) had repaid their debt. In 2003, less than one-third of university graduates had not yet repaid their student loans.

Our analyses indicate that respondents used multiple sources to finance their education. In Tables 6a and 6b, we report various sources of financial support received by those who were university graduates by 2003, and we contrast by social class and gender the two groups of respondents who did or did not rely on student loans. Overall, we notice that in both 1993 and 1998, those who pursued and completed university education relied mainly on parental support, scholarships or bursaries, personal savings, and, to large extent, earnings from full-time summer work or part-time work during the academic year. There is some variation in the proportion of respondents who indicate various sources of support by gender and parental education. Although steady trends are not clear, a drop in parental support over time is evident; also, larger proportions of male respondents report earnings from full-time work as a source to finance education. Perhaps more significant for our study is that those who took out student loans were for the most part more likely to rely on earnings from work (all gender and social class groups) and less likely to rely on parental support (those with less educated parents). Very few respondents were employed full-time during the academic year. However, in the five years following high school graduation, the vast majority – and in particular those with student loans – were employed full time during the summer months.

TABLE 6a
University Graduates by 2003 with Student Loans Declared by 1993 by Sex and Parental Education

	No loans percent				*Loans percent*			
	Parents no univ		*Parents univ*		*Parents no univ*		*Parents univ*	
	Female (n=71	*Male (n=37)*	*Female (n=61)*	*Male (n=47)*	*Female (n=48)*	*Male (n=38)*	*Female (n=36)*	*Male (n=17)*
Direct support from parents or other relatives	80	62	72	49	65	55	61	53
Direct support from spouse	7	0	0	2	6	0	3	0
Repayable loans from family	13	16	5	11	21	21	33	24
Scholarships or bursaries	62	49	53	36	58	50	69	53
Earnings from full-time work (including summer employment)	63	76	69	70	79	92	86	100
Repayable loans from employer (including repayment in time)	0	0	0	0	0	0	0	6
Non-repayable loans/assistance from employer	1	5	0	0	0	0	0	6
Part-time work during the academic year	58	54	53	40	63	61	78	35
Full-time work during the academic year	9	5	7	6	8	5	6	6
Personal savings	49	51	48	55	52	47	39	59
Other	9	8	16	9	4	5	11	12

N=355

Source: Authors' compilation.

TABLE 6b
University Graduates by 2003 with Student Loans Declared by 1998 by Sex and Parental Education

	No loans percent				*Loans percent*			
	Parents no univ		*Parents univ*		*Parents no univ*		*Parents univ*	
	Female (n=66)	*Male (n=38)*	*Female (n=52)*	*Male (n=40)*	*Female (n=68)*	*Male (n=57)*	*Female (n=52)*	*Male (n=30)*
Direct support from parents or other relatives	61	63	54	53	43	42	52	57
Direct support from spouse	12	5	8	5	4	11	4	7
Repayable loans from family	14	3	8	10	15	21	8	13
Scholarships or bursaries	39	24	38	55	56	46	62	50
Earnings from full-time work (including summer employment)	50	58	56	66	60	75	79	70
Repayable loans/assistance from employer	0	0	0	0	0	0	0	0
Non-repayable loans from government	0	0	0	0	3	2	1	3
Non-repayable loans/assistance from employer	0	3	0	0	3	0	0	3
Part-time work during the academic year	42	37	46	28	57	56	62	40
Full-time work during the academic year	9	11	16	5	4	4	0	0
Personal savings	41	34	38	43	35	30	31	33
Other	9	3	6	18	4	9	8	17

N=403

Source: Authors' compilation.

In Table 7, we examine student loan patterns by entry into and exit from the post-secondary system, by social class as determined by whether at least one parent had earned a university degree, and by gender. We developed a typology by first specifying the original high school destination of respondents by 1989 as non-participants, non-university participants, or university participants. We then categorized bachelor's degree completion as *early* if respondents completed their studies within five years of high school graduation (i.e., by 1993) or *delayed* if they completed bachelor's degrees after 1993 but by 2003. Finally, we distinguished between those who completed bachelor's

TABLE 7
Student Loan Status by Parental Education, Initial Post-High School Status, and Gender

	Females				*Males*			
	No loan %	*Loan %*	*Median amount of loan $*	*N*	*No loan %*	*Loan %*	*Median amount of loan $*	*N*
University educated parents								
University completion (%)								
Univ – early bachelor's	77	23	15,000	26	69	31	8,000	16
Univ – delayed bachelor's	33	67	20,000	6	67	33	5,000	12
Univ – graduate	33	67	23,000	18	47	53	24,500	15
Non-univ – early bachelor's	53	47	12,000	17	50	50	3,175	4
Non-univ – delayed bachelor's	59	41	16,500	17	56	44	23,000	9
Non-univ – graduate	23	77	13,500	13	57	43	27,500	7
Non-part – early bachelor's	NA	NA	NA	0	0	100	45,000	1
Non-part – delayed bachelor's	0	100	40,000	4	50	50	20,000	2
Non-part – graduate	50	50	25,000	6	0	100	52,500	4
Non-university educated parents								
University completion (%)								
Univ – early bachelor's	74	26	16,000	23	47	53	9,800	17
Univ – delayed bachelor's	50	50	31,500	8	30	70	22,000	10
Univ – graduate	41	59	23,500	27	43	57	34,500	21
Non-univ – early bachelor's	32	68	12,000	25	25	75	7,000	8
Non-univ – delayed bachelor's	55	45	23,000	22	44	56	17,000	18
Non-univ – graduate	40	60	13,100	20	40	60	20,000	10
Non-part – early bachelor's	50	50	18,000	2	100	0	NA	1
Non-part – delayed bachelor's	50	50	32,500	4	25	75	16,500	8
Non-part – graduate	0	50	11,500	4	0	100	21,500	2

Source: Authors' compilation.

degrees and those who earned graduate degrees. This classification is a modified version of a typology used by the authors in a paper that explored the educational trajectories of Paths respondents (Andres and Adamuti-Trache, 2008).

One clear finding emerges: those who complete university studies in a timely fashion – either as direct entry students from high school, as transfers from non-university institutions, or in the rare instance as non-participants, incur lower levels of student debt than do those who delay degree completion regardless of entry point. The exceptions were male university participants in 1989 who delayed completion; they had one of the lowest median debt levels at $5,000. The mean income of males who had university-educated parents and were university non-completers in 1998 was considerably higher than others who had not earned university credentials (Andres, 2002a), which supports the speculation that this group had been lured away from university study into lucrative careers. Eventually, however, most completed their university studies. This group of males was far more likely than females in the same category to have not taken out student loans.

Across most groups the median amount of student loans is higher for women. The exception is in relation to the completion of graduate studies where the debt load carried by males is considerably higher.

It is not necessarily the case that respondents whose parents had less than university education were more likely to have taken out student loans. This may mean that parental education level is not a good proxy for parental income level, or it may mean that more students from the middle class are applying and qualifying for student loans. However, as Table 7 indicates, gender is a key factor as there are much greater differences between males from educated and non-educated families than there are between women from these two groups. Overall, most of those with student loans and whose parents have not completed university had higher debt loads.

If our analysis had stopped in 1993, five years after respondents graduated from high school, the story told by the Paths data would show a discrepancy in university completion rates by gender (i.e., 37 percent of women compared to 29 percent of men, Figures 2a, 2b), a moderate proportion of university graduates with student loans (i.e., 36 percent of women and 30 percent of men), and relatively modest debt loads (i.e., $9,500 for women and $6,900 for men).[5] However, the results portrayed above indicate that following respondents over 15 years changes the story considerably.

In summary, in this section we have demonstrated that data collected over a period of five years following high school provide an incomplete

picture of the post-secondary education trajectories, completion rates, and borrowing patterns of students. To better understand these dynamics over a longer time frame, we continue the analyses to include other aspects of individuals' lives, such as work, marriage, and parenthood. Only Paths respondents who completed university degrees by 2003 are included in the following analysis.

Analysis 2

The first analysis has revealed that the majority of Paths respondents have reached high levels of university education (i.e., 37-38 percent had earned bachelor's degrees and 21-22 percent graduate degrees) with median student loans of $18,000 over 15 years. However, we hypothesize that by examining the variety of educational paths that lead to degree completion in relation to other adult life activities, we will be able to cast a different light on the student loan story. For the purpose of this analysis, the university graduate sample is divided into three groups: those who obtained bachelor's degrees by 1993 (early bachelor's degree), those who took a longer time period to obtain bachelor's degrees (delayed bachelor's degree), and those who obtained graduate degrees any time before 2003 (graduate degree).

Results in Table 8 indicate that those completing a bachelor's degree "early" – that is, within five years following high school graduation – were in a better position to graduate with no loans or a very small debt load. The slight increase in median student debt by 1998 and 2003 for this "early bachelor's" group is due to participation in other levels of education, either as extra credentials at non-university level or in graduate programs that had not yet been completed by 2003. Meanwhile, those who had not completed bachelor's degrees by 1993 incurred larger amounts of debt across all time periods. The largest increase in student debt for this group occurred between 1993 and 1998. Regardless of the timing of bachelor's degree completion, women incurred higher median student debt at all times.

Those who completed first professional or graduate degrees by 2003 are located in the last two columns of Table 8. Men who obtained such credentials reported the highest median student debt by 2003 ($26,000) as opposed to men who obtained bachelor's degrees within five years ("early bachelor's") and reported a median debt load of only $8,000 by 2003. In 1998 and in 2003, the median student debt incurred by men who obtained graduate degrees surpassed that reported by women.

TABLE 8
University Completion and Student Loans by Gender

		Early bachelor's		*Delayed bachelor's*		*Graduate degrees*	
		Female (n=97)	*Male (n=51)*	*Female (n=65)*	*Male (n=61)*	*Female (n=97)*	*Male (n=62)*
Student loans (1989-2003) percent	Yes	43	49	54	52	63	61
Median student debt ($)	1993	8,600	6,330	12,250	7,400	12,000	11,000
	1998	9,750	6,830	21,000	15,000	15,000	19,500
	2003	12,500	8,000	24,000	18,000	19,000	26,000

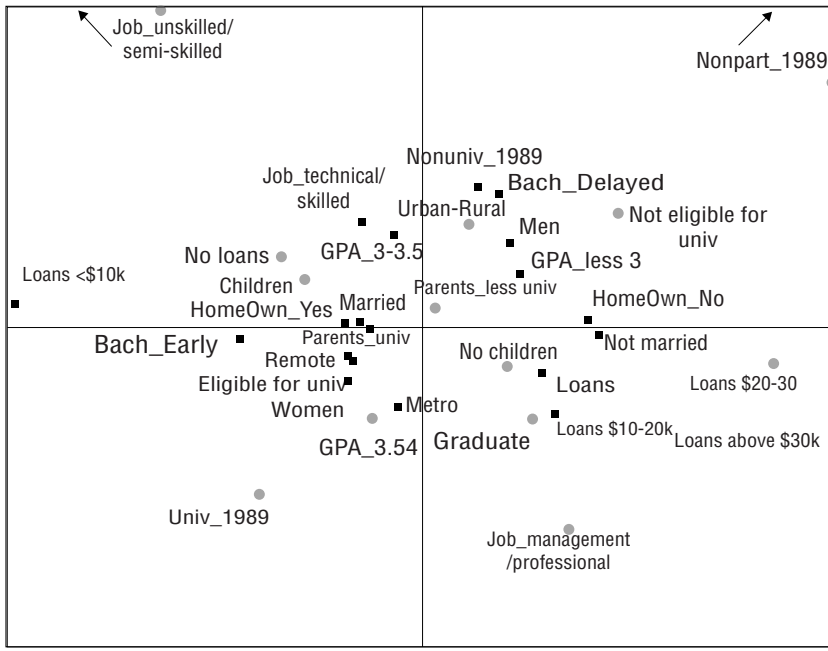
Source: Authors' compilation.

As indicated at the outset of this paper, we employ a life course perspective when examining university completion and student financial burden. In the ensuing correspondence analysis, many factors related to life course events such as academic capital accumulated in high school, various demographic characteristics, and occupational status are included.

The correspondence analysis map in Figure 4 positions the points corresponding to the three-column profiles assigned to the university completion categories (i.e., early bachelor's, delayed bachelor's, graduate degrees) in relation to the 30-row profiles corresponding to gender (2), parental education (2), family geographic location (3), high school GPA (3), university eligibility (2), 1989 post-school status (3), debt load (2), amount of student loan (4), marital status by 2003 (2), parenthood by 2003 (2), home ownership by 2003 (2), and occupational status in 2003 (3). The two-dimensional CA map is an exact representation of all profile points, and the two principal axes explain 100 percent of the dispersion of points.

The horizontal axis accounts for 55 percent of the average total inertia. It opposes the group that completed a university degree by 1993 (early bachelor's) to the left and the groups who took longer to completion (delayed bachelor's and graduate degrees) to the right side of the map. The "hidden" variable can be identified as time to university completion – with shorter time to completion to the left side of the map and longer time to completion to the right. The row profiles that align best to the horizontal axis (based on map and CA statistical tests of row contributions to inertia) are those describing the

FIGURE 4
University Completion, Student Debt, and Life Course Characteristics



Source: Authors' compilation.

amount of student loan: the "loans < $10k" category to the left is far apart from the "loans above $30k" category to the right side of the map. The correspondence analysis shows clearly that the timing of university completion is associated with the amount of student loan incurred by respondents (these row profiles contribute by 35 percent to the horizontal axis inertia).

Overall, the "no loans" and "loans" categories are situated symmetrically and closer to the centre of the map that corresponds to an average profile since respondents are quite evenly distributed in these two groups (i.e., 54 percent had student loans by 2003; see Figure 3). What differentiates groups most is the amount of student loan incurred. One can also notice that "no loans" or lower amounts of loans profiles (left side) are associated with being married, having children, or owning a home by 2003, while larger amounts of loans profiles (right side) are likely to correspond to not having engaged in these adult life activities by 2003.

The vertical axis accounts for 45 percent of the total inertia and mainly contrasts the column profile that corresponds to "delayed bachelor's" (up) and "graduate degrees" (down), thus differentiating the two groups that take longer to complete university studies. Two sets of row profiles contribute the most to the vertical axis. First, 1989 post-school status, that describes post-secondary participation directly out of high school, contributes about 29 percent to the axis. It shows clearly that those who delay completion are likely to have started in non-university post-secondary institutions or (very few) to have never participated in post-secondary studies. Some respondents may not have been eligible for university admission due perhaps to lower GPA, lack of prerequisites, or both. Geographical location may also be a contributing factor in delaying completion. The second set of row profiles, which contributes about 40 percent to the vertical axis, is related to occupational status by 2003, a consequential variable. The CA map shows that those who delayed bachelor's degree completion are more likely to occupy technical/skilled occupations and (very few) unskilled/semi-skilled jobs rather than occupations at the management/professional level. Perhaps those who delay university entry or take prolonged routes through the system were established in lower level jobs and so degree completion did not guarantee a transition to the professional ranks. Those who completed bachelor's degrees early and did not continue on to graduate studies incurred lower levels of student debt, were more likely to be married with children, and were more likely to have purchased a home.

Appendix I contains additional details on the data distributions of various individual characteristics of female and male respondents who completed university degrees in each of the three categories. The table demonstrates clearly that those who delayed bachelor's degree completion represented a more vulnerable group in terms of high school preparation and post-secondary participation. A slightly higher proportion came from families with less education and were substantially more likely to have come from urban-rural areas. Overall, they incurred higher levels of student debt, a burden that is difficult to carry considering that return to education is less evident for these individuals. Only 20 percent of women in the delayed bachelor's completion category were in management or professional jobs. When compared to the other two groups, both women and men in this category were less likely to be married, have children, and own homes.

We conclude this section by contrasting the profiles of respondents who completed their university education with or without student loans. In Table 9, we report the composition of the two loan status groups by

TABLE 9
Student Loan Status by Gender

	Females			*Males*		
	No loan (n=122)	*Loan (n=137)*	*Tests**	*No loan (n=77)*	*Loan (n=97)*	*Tests[a]*
University completion (%)						
Early bachelor's	46	25	p<0.05	33	27	ns
Delayed bachelor's	25	30		36	34	
Graduate degrees	29	45		31	39	
Academic achievement (%)						
GPA 1.0 – 3.0	26	24	ns	20	33	ns
GPA 3.0 – 3.5	23	27		29	26	
GPA 3.5 – 4.0	51	48		52	41	
University eligibility (%)						
No	22	27	ns	20	21	ns
Yes	78	73		80	79	
1989 PSE participation (%)						
Non-participant	7	10	ns	7	14	ns
Non-university	43	53		33	34	
University	50	37		61	52	
At least one parent has university education (%)						
No	55	57	ns	49	64	p<0.1
Yes	45	43		51	36	
Family geog. location (%)						
Metropolitan area	48	25	p<0.001	53	35	p<0.1
Urban-rural area	34	46		27	39	
Remote area	18	29		20	26	
2003 Home ownership (%)						
No	28	26	ns	27	30	ns
Yes	72	74		73	70	
1993 mean salary ($)	12.4	11.2	ns	13.5	11.8	ns
1998 mean salary ($)	19.0	18.2	ns	23.1	18.2	p<0.05
2003 mean salary ($)	29.4	29.4	ns	32.5	35.1	ns

Note:
[a]We used chi-square tests to compare proportions and one-way ANOVA tests to compare means.

Source: Authors' compilation.

gender in relation to various factors in order to determine whether graduates with student loans are essentially different from those who completed their studies without loans. Of the 137 female respondents who had student loans, 25 percent obtained early bachelor's degrees, 30 percent were in the delayed bachelor's degree completion category, and 45 percent had earned graduate degrees. The composition of the group of women who did not have student loans is quite different: most (46 percent) obtained early bachelor's degrees. The chi-square test of independence shows that there is a significant association between loan status and university completion paths for female respondents. Quite similar but less pronounced patterns are evident for male respondents.

Family geographical location is another factor for which a significant difference between the student loan group distributions can be demonstrated. Those coming from urban-rural areas were the most likely to receive student loans, and this pattern is stronger for women. Most respondents without loans had parents living in metropolitan areas, and this pattern is stronger for men. There is a modest association between family background (parental education) and student loan status, with about 57 percent of women and 64 percent of men who had loans coming from less educated families. However, this relationship is significant only for males. There is no significant difference between the student loan groups by GPA or university eligibility status; since all of the respondents in this analysis are university graduates, their high school academic characteristics are quite similar. This suggests that all being relatively equal in terms of academic ability, other factors do contribute to delayed or prolonged study for some talented individuals. For example, most women who received student loans over time began their studies in 1989 in non-university institutions (53 percent), while the majority (52 percent) of men who received loans entered university directly in 1989. Similar patterns are evident within the group of respondents without student loans, which supports a previous observation that women are more likely than men to go through a university transfer route. Few differences are detected between groups on variables related to home ownership and mean salary.

Discussion and Conclusion

The complexity of the analyses above attests to the challenges in portraying the various routes through the post-secondary system in relation to an examination of debt load incurred over time and in relation to evolving individual, institutional, and system characteristics. In an articulated system such as that of B.C. which encourages participation

in post-secondary education by all age groups, multiple entry and transfer points must be taken into account. Individuals' actions reflect the structure of the system, which means that if we focus on only one entry point (e.g., direct entry after high school graduation) or one exit point (e.g., completion of a bachelor's degree), some key components of the post-secondary attainment/student debt story remain concealed. Also, it is critical to account for where someone commences post-secondary studies and whether the journey through to degree completion is swift, delayed, or extended.

One key finding of this paper is that an extended time to degree completion – due to delayed entry into the post-secondary system, a prolonged period of study, or transfer from a non-university institution to university – is costly in terms of overall student debt incurred. Our findings show clearly that those students requiring student financial assistance who complete university degrees within five years of high school graduation incur far less overall debt than those who fall into the "delayed bachelor's" category. This finding is even more remarkable given that B.C. had a tuition freeze in place for most of the years that students in this category would have studied in post-secondary institutions. However, the less than generous B.C. student assistance policies and, in particular, a loan remission policy restricted to only B.C. student loans as well as limited access to grants and bursaries may have offset any intended financial relief through frozen tuition fees. In addition, expansion of the number of post-secondary places outside the large metropolitan areas may have encouraged students to begin post-secondary studies in their local communities, which may, in turn, have resulted in prolonged completion times. Problems with transfer from non-university institutions to universities, such as difficulty in gaining access to useful information about the transfer process and in choosing courses that are transferable to receiving institutions, are well documented (Andres, 2001). However, our findings also reveal that those students who begin their studies at non-university institutions *and* complete their studies within five years incur the lowest amounts of student debt. In B.C., this is considered an indication that the transfer system is working very well and as intended.

However, gender differences in median debt loads are evident for this group. Elsewhere, Andres (1999) has demonstrated that women are more likely than men to work part-time during the academic year, which suggests that men are able to earn more during the summer and as a result are perhaps less likely to need high levels of student financial assistance. However, our study shows that those who hold student loans are also more likely to work, either full-time or part-time, which

appears to be associated with high costs of obtaining a university education and limited parental financial support.

The correspondence analysis confirms that there is an association between the timing and duration of paths to university completion and the amount of student loans incurred. In addition, commencing post-secondary studies within one year of high school graduation matters. The types and duration of paths taken to university completion have consequences for other spheres of respondents' lives (e.g., marriage, children, home ownership, occupational status). This analysis demonstrates that high school achievement is a relevant explanatory variable of educational paths that not only determines what respondents do one year after high school graduation but also has long-term consequences.

In terms of policy implications, it appears that to ensure timely degree completion, adequate student financial assistance is necessary – through scholarships, bursaries, student loans that can be repaid without causing undue hardships for students who are becoming increasingly involved in other facets of adult life, or a combination of all of the above. Implementation requires adequate student services within post-secondary institutions to assist students who have difficulties in planning their way through the system in terms of academic and financial need, but also in relation to their career and life course plans. Especially in articulated post-secondary systems that offer a range of institutional opportunities, it is important to strengthen counselling services. It is a mistake to take for granted that by simply creating an articulated system, students will find optimal ways to navigate it.

The most able students are those who are most likely to finish their studies within five years. Secondary school personnel, policy-makers, students, and parents should be made aware of the relationship between poor preparation in high school – as reflected in low achievement levels and ineligibility for direct entry into universities – and its subsequent impact on time to completion of university degrees, related debt load, and the ability to engage in adult life tasks. In other words, students who plan to earn university degrees would be well advised to take advantage of the educational opportunities offered by the tuition-free segment of the educational system – that is, senior secondary.

We have demonstrated that even though women complete their studies more quickly than men, they are more likely to incur higher levels of student debt. Elsewhere it has been demonstrated repeatedly that women with equivalent levels of education as men are much more likely than men to be in lower status jobs and earn less money. Income-contingent repayment schemes, such as those in Australia, could mitigate somewhat the burden of debt repayment in relation to low levels

of income, particularly for women. Substantial loan remission for timely completion of university studies could be another strategy of benefit to women.

As we described at the beginning of this paper, policies around access and financial aid and the actual structure of the system are in constant flux. It is thus very difficult for students and their parents to monitor, plan for, and adapt to these changes. Perhaps students who enter the system should be able to "lock in" to certain conditions of funding for a given (e.g., five year) period of time to ensure continuity and provide some guarantee that their saving strategies over the years leading up to post-secondary participation are adequate to fund entry into the post-secondary system and timely program completion. An "education mortgage" scheme would both introduce predictability into borrowing patterns and reinforce the idea that education is truly an investment in one's future. A scheme that intertwines educational and financial goals could also serve as an incentive for students to complete each educational level more quickly and earn a credential over a shorter period of time.

Two factors may have potentially confounded our findings about the relationship between "delayed" bachelor's degree and total student debt. First, delayed bachelor's are likely to spend more time than early bachelor's in post-secondary institutions as independent students. Independent student status increases the amount of student financial assistance available to these individuals because parental income is not a determining factor (Usher, 2004). Second, in 1994 Canada loan limits increased from $105/week to approximately $180/week for first and second year students and $270/week for students beyond second year. The impact of this one-time change to the student financial system requires additional investigation in relation to our findings. However, it does not change the fact that those in the delayed bachelor's category accumulate more student debt.

Similarly, rural students accumulate more debt because urban students in general have the option of living with their parents. While this may indeed be in keeping with the intentions of government policy, it costs rural students more to complete university studies. From an equity of access perspective, rural students are disadvantaged due to ascription.

Why do women complete their studies more quickly, yet incur more student debt? Why do males who take prolonged routes through the university system graduate with relatively lower levels of debt? Why are a relatively high proportion of respondents from middle-class backgrounds taking out student loans to complete their studies? How does the nature of the B.C. transfer system enhance or hinder timely

completion of university studies? Although the results of our analyses have allowed us to speculate about possible explanations, further research is required to explore answers to these questions in depth. Our findings not only suggest directions for further research but indicate the nature and duration of data collection required.

Finally, the story told in this paper is clearly a British Columbia story. As highlighted at the beginning of the paper, the structure of the system, the nature of the student financial aid system, and the structure of provincial tuition fees clearly influence the way in which a given cohort manoeuvres through a given post-secondary system. Although analyses of data drawn from a Canadian sample such as is available in the Youth in Transition Survey Cohort B (YITS-B) (see Andres and Adamuti Trache, 2007, and other chapters in this volume) can provide an indication of overall trends, it is much more difficult to pinpoint reasons for high debt loads incurred by students and to devise policies to enhance the financial well-being of post-secondary graduates without locating the analysis within the relevant provincial context. However, even when considering the B.C. system alone, it is clear that student financial assistance policies were not in step with the intentions of the Access for All initiative and its enduring legacy.

Notes

1. In addition, the Ministry of Education provided a limited number of scholarships to students who wrote and achieved high scores on scholarship examinations. Scholarships were awarded to students on the basis of Standard Ministry Scores. In 1987-88, 1,174 of the 6,372 students who wrote scholarship examinations received these awards. Also, school districts offered awards ($500 value) to 1 percent of their students. In 1987-88, the Passport to Education program was introduced, which, according to the Ministry of Education (1988), "was designed both to recognize current achievement and to promote greater effort and achievement in the future" (22). It allowed students to accumulate award credits over the four years of high school to a maximum of $800. However, it had limited impact on 1988 graduates as eligible students would have earned $275 at most (British Columbia Ministry of Education, 1988).
2. A weighted full-time equivalent (WFTE) is adjusted to account for variations in tuition fees, for example between an undergraduate arts student and a medical student (Malcolmson and Lee, 2004, 20).
3. In several tables, cells contain a small "n" indicating small numbers. These results must be interpreted with caution. However, when compared with other cells in a table (e.g., Table 6), a small "n" demonstrates that some trajectories are very infrequently embarked upon.

4. It is likely that these students were admitted as exceptional admissions (e.g., without the necessary prerequisites). We do not have precise information about admission decisions.
5. We compared these results with data from the Youth in Transition Survey Cohort B (YITS-B). The YITS-B longitudinal study of youth has much in common with the 1989 and 1993 surveys of the Paths on Life's Way project. Comparable findings between Paths and YITS data within first five years after the high school graduation of each cohort support the credibility and generalizability of the B.C. longitudinal results.

References

Adamuti-Trache, M., and L. Andres. 2008. "Embarking on and Persisting in Scientific Fields of Study: Cultural Capital, Gender, and Curriculum along the Science Pipeline." *International Journal of Science Education* 30 (12): 1557-84.

Andres, L. 1999. "Multiple Life Sphere Participation by Young Adults." In *From Education to Work: Cross-National Perspectives*, edited by W. Heinz, 149-70. Cambridge: Cambridge University Press.

– 2001. "Transfer from Community College to University: Perspectives of British Columbia Students." *Canadian Journal of Higher Education* 31 (3): 35-74.

– 2002a. *Educational and Occupational Participation and Completion Patterns of the Class of '88*. Vancouver: British Columbia Council on Admissions and Transfer.

– 2002b. *Paths on Life's Way: Base Line Study (1988) and First Follow-up (1989)*. Vancouver: Department of Educational Studies, University of British Columbia.

– 2002c. *Paths on Life's Way. Phase II Follow-up Survey, 1993, Five Years Later.* Rev. ed. Vancouver: Department of Educational Studies, University of British Columbia.

– 2002d. *Paths on Life's Way: Phase III Follow-up Survey of 1998, Ten Years Later.* Vancouver: Department of Educational Studies, University of British Columbia.

Andres, L., and M. Adamuti-Trache. 2006. *Youth Transitions through Education, Work and Life: British Columbia High School Graduates of the Class of '88*. Paper presented at the 16th World Congress of Sociology, Durban, South Africa, 23-29 July.

– 2007. *For Whom Does Student Financial Assistance Make a Difference? A Fifteen Year Portrait of British Columbia Young Adults.* Paper presented at the Measuring the Effectiveness of Student Aid (MESA) Conference, Canada Millennium Scholarship Foundation, Montreal, 19 October.

– 2008. "Life Course Transitions, Social Class, and Gender: A Fifteen Year Perspective of the Lived Lives of Canadian Young Adults." *Journal of Youth Studies* 11 (12): 115-45.

Andres, L., M. Adamuti-Trache, E.-S. Soon, M. Pidgeon, and J.-P Thomsen. 2007. "Educational Expectations, Parental Social Class, Gender, and Post-Secondary Attainment: A Ten Year Perspective." *Youth and Society* 39 (2): 135-63.

Andres, L., and J. Dawson. 1998. *Investigating Transfer Project. Phase III: A History of Transfer Policy and Practice in British Columbia.* Research report prepared for the B.C. Council on Admissions and Transfer. Vancouver: B.C. Council on Admissions and Transfer.

B.C. Ministry of Advanced Education and Job Training. 1987. *Completion, Transfer, and Retention.* Paper No. 8 in the Access, Completion and Transition to Work Series. Victoria: B.C. Ministry of Advanced Education and Job Training.

B.C. Provincial Access Committee. 1988. *Access to Advanced Education and Job Training in British Columbia.* Report to the Ministry of Advanced Education and Job Training.

Bourdieu, P. 1990. *In Other Words. Essays toward a Reflexive Sociology.* Translated by M. Adamson. Stanford: Stanford University Press. (Original work published in 1982, 1987).

British Columbia Ministry of Education. 1988. *Ministry of Education Annual Report*. British Columbia: Ministry of Education.

British Columbia Research Corporation. 1990. *A Follow-up Survey of 1987/88 Grade 12 Graduates.* Technical Report. Vancouver: B.C. Research.

Coleman, J.S., and T. Husén. 1985. *Becoming Adult in a Changing Society*. Paris: OECD.

Drolet, M. 2002. "Can the Workplace Explain Canadian Gender Pay Differentials?" *Canadian Public Policy* 28 (Supplement 1): 41-63.

Finnie, R. 2005. "Access to Post-Secondary Education: An Analytical Framework and New Evidence on Background Effects." In *Preparing for Post-Secondary Education: New Roles for Governments and Families*, edited by R. Sweet and P. Anisef, 17-54. Montreal and Kingston: McGill-Queen's University Press.

Gelin, F. 2006. "The British Columbia Council on Admissions and Transfer and Its Role in the BC Post-Secondary System." Paper presented at the BCCAT Orientation for New Council Members Meeting. Thompson Rivers University, Kamloops, B.C.

Giddens, A. 1984. *The Constitution of Society*. Berkeley: University of California Press.

Greenacre, M. 1993. *Correspondence Analysis in Practice*. London: Academic Press and Hartcourt Brace and Co.

Härnqvist, K. 1978. *Individual Demand for Education*. Paris: OECD.

Hodgkinson, H.L. 1985. *All One System: Demographics of Education, Kindergarten through Graduate School*. Washington, D.C.: Institute for Educational Leadership.

Hunt, S. 2005. *The Life Course: A Sociological Introduction*. Hampshire: Palgrave Macmillan.

Karabel, J. 1986. "Community Colleges and Social Stratification in the 1980s." *New Directions for Community Colleges* 54 (2): 13-30.

Macdonald, J. 1962. *Higher Education in British Columbia and a Plan for the Future*. Vancouver: University of British Columbia.

Malcolmson, J., and M. Lee. 2004. *Financing Higher Learning: Post-Secondary Education Funding in BC.* Vancouver: Canadian Centre for Policy Alternatives.

Orum, J. 1997. *Review of BC Student Assistance and Barriers to Post-Secondary Participation.*

Pineo, P.C., and J. Goyder. 1988. "The Growth of the Canadian Educational System: An Analysis of Transition Probabilities." *Canadian Journal of Higher Education* 17 (2): 37-54.

Review of BC Student Assistance and Barriers to Post-Secondary Participation, Final Report. 1992. Victoria: B.C. Ministry of Advanced Education, Training, and Technology.

Standing Senate Committee on National Finance. 1987. *Federal Policy on Post-Secondary Education*. Ottawa: Minister of Supply and Services Canada.

Statistics Canada. 2005. University Tuition Fees, *The Daily* (1 September 2005). Accessed 21 September 2007. http://www.statcan.ca/Daily/English/050901/d050901a.htm.

– 2006. University Tuition Fees, *The Daily* (1 September 2006). Accessed 21 September 2007. http://www.statcan.ca/Daily/English/060901/d060901a.htm.

– 2007. Average Undergraduate Tuition Fees for Full-Time Students, by Discipline, by Province: Statistics Canada. Accessed 21 September 2007. http://www40.statcan.ca/l01/cst01/educ50a.htm?sdi=tuition percent20fees percent20provinces.

Usher, A. 2004. *Are the Poor Needy? Are the Needy Poor?* Toronto: Educational Policy Institute.

APPENDIX
Determinants and Consequences of University Completion Paths (Column Percentages)

University completion		***Early bachelor's***		***Delayed bachelor's***		***Graduate degrees***	
Gender		*Female*	*Male*	*Female*	*Male*	*Female*	*Male*
Academic achievement (GPA)							
1.0 – 3.0		23	22	31	31	24	27
3.0 – 3.5		23	33	31	30	25	19
3.5 – 4.0		55	45	39	39	52	53
University eligibility	Yes	81	88	65	75	76	77
1989 PSE participation							
Non-participant		2	4	14	18	10	6
Non-university		44	26	65	44	42	18
University		54	71	22	38	47	38
Student loans (1989-2003)							
None		57	51	46	48	37	39
<$10,000		18	31	14	10	13	3
$10-20,000		11	12	8	18	20	13
$20-30,000		8	4	14	15	17	18
Above $30,000		6	2	19	10	13	27
Parents have university degree							
No parent		54	55	56	61	58	56
At least one parent		46	45	44	39	42	44
Parents' geographical location							
Metropolitan area		37	45	28	38	39	47
Urban- Rural area		36	31	54	38	36	32
Remote area		27	24	19	25	25	21
2003 Occupational status							
Unskilled/Semi-skilled		10	12	13	15	3	0
Technical/Skilled		55	46	67	42	44	31
Management/Professional		35	41	20	42	53	69
2003 Marital status	Yes	78	82	71	75	70	73
2003 Children	Yes	77	55	51	44	39	40
2003 Home ownership	Yes	77	78	74	65	67	68
Sample size (N)		**97**	**51**	**65**	**61**	**97**	**62**

Source: Authors' compilation.