

# research results

highlights of current research for BC post-secondary system partners

## The Mosaic of Post-Secondary Institutional Attendance: A Twenty-Two Year Perspective

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### Introduction

Because of its diversity, the BC post-secondary system offers many routes to credential completion. However, to capture the dynamics of institutional attendance requires a long view of individuals' journeys through the various post-secondary institutions over time. In this report, we employ data from the *Paths on Life's Way* project to examine the attendance sequences of the BC high school graduating class of 1988 through the post-secondary system over a 22 year period.

The *Paths on Life's Way* project is the only longitudinal data base of its kind in British Columbia and one of the few longitudinal studies of youth in Canada. This project now spans 22 years and provides a detailed account of the lives, choices, and post-secondary education and work experiences of a provincially representative sample of individuals from the BC high school graduating class of 1988. This data base contains detailed education, work and life course related information collected at five points in time – 1989, 1993, 1998, 2003, and 2010 and includes detailed information on post-secondary education, employment, unemployment, and “other” activities; personal

wellbeing and happiness; and personal background information including family constellation. Hence, the *Paths* data set is ideal in capturing the nature of transitions and trajectories over a long period of time. The main purpose of these analyses are to build on earlier research and to further specify and refine the different templates of institutional trajectories that individuals undertake during the course of their lives. Also, we offer policy implications for BC and beyond from the results of these analyses.

In this report, we use the analytical technique of sequence analysis. Sequence analysis is ideal for life course research as it uses variables or elements with certain states – in this case post-secondary participation status – that can be ordered into sequences; then, the sequential nature of all elements can be examined simultaneously. The sequence then serves as a representation of an individual's pathway through the post-secondary system<sup>1</sup>. In the analyses presented in this newsletter, each state represents a one year time period.

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<sup>1</sup> For a detailed description of sequence analysis, see Aisenbrey & Fasang (2007), Brzinsky-Fay, Kohler, & Luniak, (2006), and Martin, Schoon, & Ross (2007).

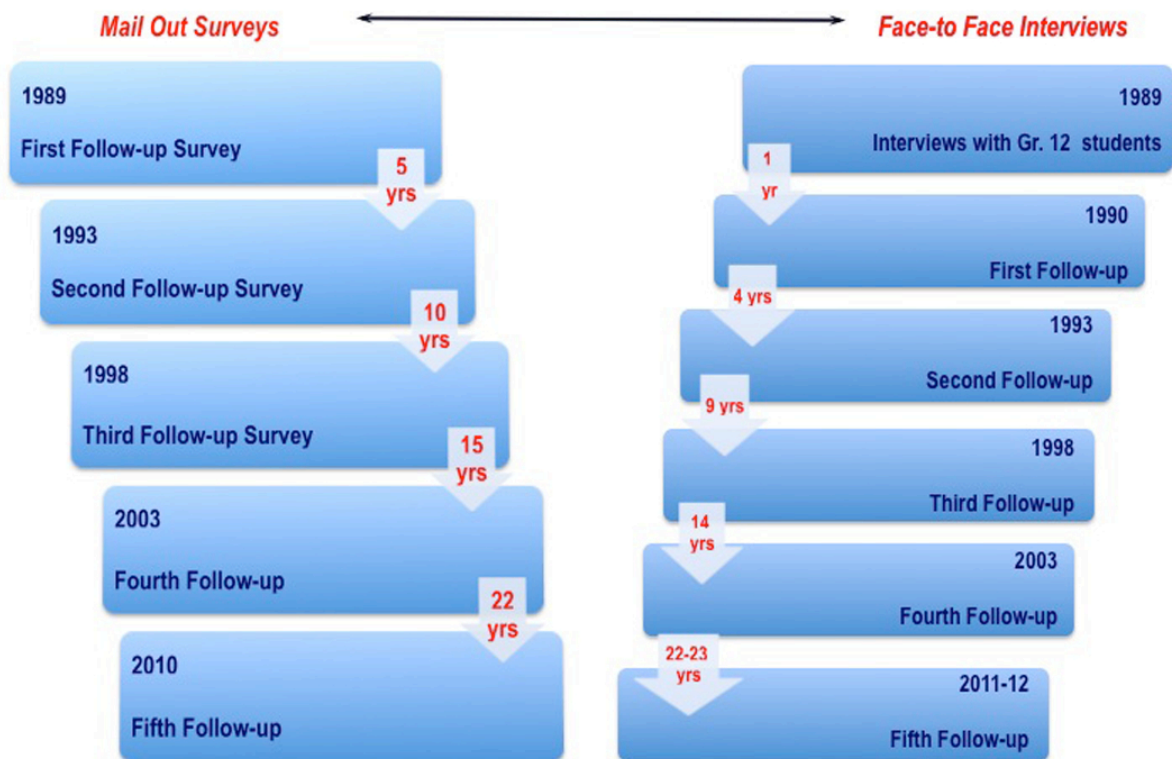
# Analyses

In these analyses we expect to find a complex set of institutional participation patterns beyond those that are usually anticipated within an articulated post-secondary system. We expect that the journey through the post-secondary system will be both more varied than continuous participation in one type of institution (e.g., community college or university) and, for those who transfer, more varied than the traditional and standardized transfer from community college or university-college to university. As well, we expect different transition patterns by women and men, post-secondary completion status, and geographic location of origin (1988). Because the Paths study follows individuals, we are able to capture post-secondary participation both within and outside BC<sup>2</sup>.

Details of the *Paths* project can be found at the *Paths on Life's Way* project website ([blogs.ubc.ca/paths](http://blogs.ubc.ca/paths)).

In **Figure 1**, a schema of the *Paths on Life's Way* project is portrayed. In these analyses, we focus on the left hand side of Figure 1 and employ responses to mail out survey questionnaires. In this newsletter, we use data from the 574 respondents who participated in all phases of data collection and present analyses of the entire 22 years between 1988 and 2010. The analyses employ 543 valid cases.

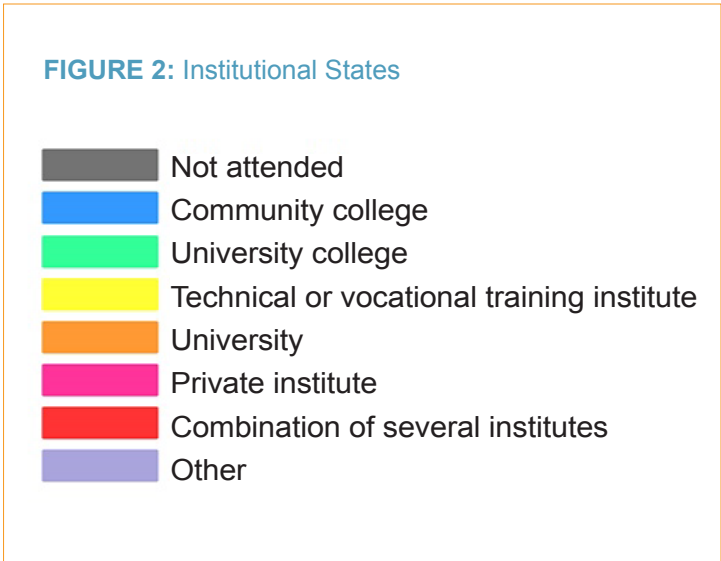
**FIGURE 1.** Paths on Life's Way Sample



<sup>2</sup> In this newsletter we do not distinguish between post-secondary participation within and outside of BC. For more detailed accounts, see Andres, 1992, 2002a, 2002b, 2002c.

Each type of institution attended – for example community college – is considered a “state.” Preliminary analyses revealed 16 different states<sup>3</sup> experienced by *Paths* respondents. For ease of interpretation, we have collapsed those who simultaneously attended more than one institution in a given year into one category, labeled “combination of several institutions.” In the analyses employed here, eight different states used are portrayed in Figure 2.

Over the past 22 years, institutions have been reconfigured and renamed. In these analyses, we label the institutional type according to its official definition within a given five year period (1988-93, 1993-98, 1998-03, 2003-10). These changes are specified in Appendix 1. Institutions currently designated as teaching-intensive universities are included as university colleges up to the time period specified in Appendix 1 and as universities thereafter.



## How to Read the Graphs

In Figure 3, three examples of year-by-year states over 22 years are portrayed. Each row represents an individual in the *Paths* data set with each colour representing specific types of institutions attended. The first individual was a non-attender in each year of the study. The second individual studied at a community college in 1988-89, attended a university in the next four years, and then enrolled at an “other” type of institution. Several years of non-attendance ensued with re-enrolment in an “other” type of

institution in three of the last five years. The third individual was enrolled at a university for four years, followed by one year as a non-attender, another year at a combination of more than one institution, another two years at university, two years of non-attendance, three years at a technical/vocational institution, one year at a university, and eight years of non-attendance.

**FIGURE 3: Three Examples of Trajectories Over 22 Years**

NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
CC	U	U	U	U	O	O	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	O	O	NA	O	NA
U	U	U	U	NA	C	U	U	NA	NA	ITV	ITV	ITV	U	NA	NA	NA	NA	NA	NA	NA	NA

<sup>3</sup> Combinations include community college + university-college; community college + technical/vocational institution; community college + university; community college + private institution; university-college + technical/vocational training institute; university-college + university; university-college + private institution; technical/vocational training institute + university; technical/vocational training institute + private institution; and university + private institution. Three or four cases where more than two institutions were attended in given survey years were collapsed into attending multiple institutions and were not included in the combinations listed here.

# 1. Sequences of Institutions Attended, 1988 to 2010

In Figure 4, the sequence of institutions attended from 1988 to 2010 is portrayed. In total, the 543 respondents in this study engaged in 430 different sequences through the post-secondary system over 22 years. Moreover, 398 or 73% of the 430 sequences are unique!

Figure 4 shows that the vast majority of *Paths* respondents attended a post-secondary institution between 1988 and 1989, the year following high school graduation. The largest proportion (32%) attended universities, followed by community colleges (24%), and university-colleges (17%). A much smaller proportion attended private institutions (3%), a combination of institutions (1%), and other institutions (1%). Twenty percent did not attend any post-secondary institution during the one year period following high school graduation. In the next sections, we look at each of the eight states individually. This portion of the analysis focuses only on attendance and not completion status. We address the attendance by completion status later in the newsletter.

## a. Non-attendees in 1988-89

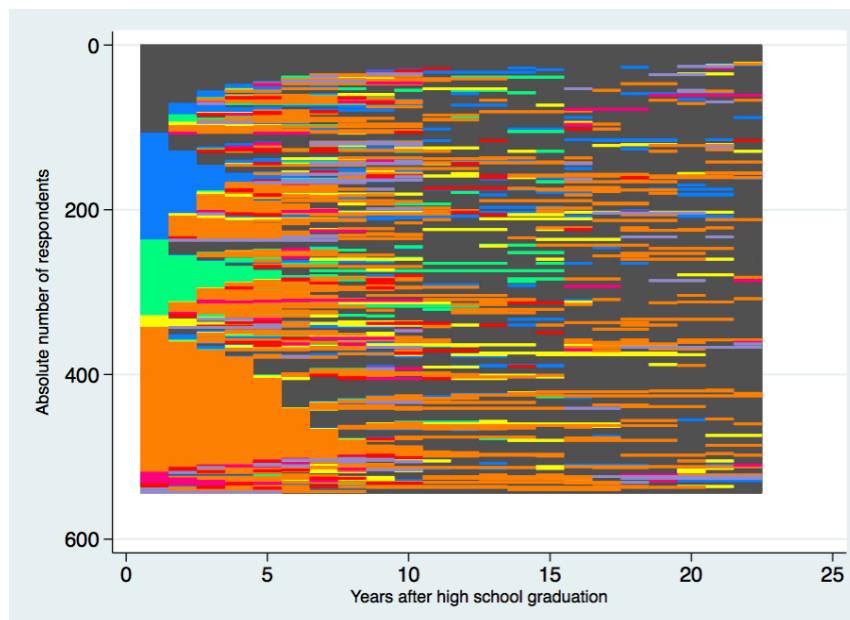
By 1989-90, that is within one year of high school graduation, the proportion of *Paths* respondents who were post-secondary non-attendees out of high school increased to 24% (from 20% in 1988-89). Of those who were non-attendees in 1988-89, 66% remained in this category in 1989-90. The largest proportion entering the post-secondary system for the first time attended community colleges, with smaller proportions enrolling at university-colleges, technical/vocational institutions, and universities. Within five years following high school graduation (by 1993), only 7% remained non-attendees. After five years, about half of those who had never attended a post-secondary institution engaged in some form of study. By 2010, only 3% remained non-attendees – in other words, never attendees – over the entire 22 year period.

## b. Community College Participants in 1988-89

Commencing studies in community colleges was a popular choice for *Paths* respondents. Within three years, there was considerable movement from community colleges, primarily to universities. A very small number moved to other types of institutions. By 1990-91, 17% of those who began their studies at community colleges were non-attendees. However, 58% of those who were non-attendees in 1988-89 enrolled in community colleges in the following year. Between 1993 and 1998, there was considerable post-secondary participation at a variety of

institutions by this group, as evidenced by the multiple coloured sequences. Participation declined considerably from 1998 onward; however, many returned to post-secondary studies.

FIGURE 4: Post-Secondary Institutional Attendance, 1988-2010



## c. University-College Participants in 1988-89

Somewhat fewer *Paths* respondents (17%) entered university-colleges directly following high school. Within one year, a few had moved to universities or out of post-secondary education. In addition, a very small proportion moved to technical/vocational institutions or attended two or more institutions. The proportion who continued to attend university-colleges narrowed between years three and five and movement was primarily to universities. Those beginning at university-colleges and moving to universities showed considerable post-secondary activity for a 10 year period ending in 1998. In contrast, those who did not transfer to universities were more likely to be non-attendees by 1998. Regardless of transfer status, those who began at university-colleges were likely to be non-attendees from 1998 onward.

## d. Technical/Vocational Participants in 1988-89

Very few *Paths* respondents (3%) began their studies at technical/vocational institutions. Most of those who did so attended for one to two years. A very small proportion of this group returned to these types of institutions seven to 10 years following high school graduation. After 10 years, post-secondary participation was minimal. It is worth noting that although

few *Paths* respondents commenced their studies at technical/vocational institutions, participation increases over the course of time. This suggests that as the sample ages, more targeted studies become increasingly appealing.

### e. University Participants in 1988-89

A full 32% of *Paths* respondents attended universities directly following high school graduation. One year later, university participation increased to 37%. Of this proportion, 74% participated continually for four years and 56% for five years. Continual but diminishing university participation was evident for a substantive minority between 1993 and 1999. A tiny proportion remained enrolled continuously at universities for up to 16 years. Except for a very small proportion who left the post-secondary system, those who commenced their studies at universities but left within one to two years tended to enrol in a variety of other types of institutions and continued to do so for up to 10 years. Although a few enrolled in technical/vocational institutions following four or more years of university attendance, it is not a dominant sequence.

### f. Private Institution Participants in 1988-89

A very small number of *Paths* respondents (2%) attended private post-secondary institutions directly upon high school graduation. Of those who did, the majority attended for one year. Almost all stayed in the post-secondary system for six years and sporadically thereafter.

### g. Other Institution Participants in 1988-89

The least likely choice for *Paths* respondents in 1988-89 was an institution labeled as “other”. This category captures institutions that could not be included in the other categories. Examples include the Workers Compensation Board (WCB) and ABC First Aid. Similar to those attending private institutions, a starting point at an “other” institution led to post-secondary participation in the subsequent five year period. After this time, most in this group were non-attendees.

In the next sections we consider institutional participation sequences by gender, post-secondary completion status, and geographic region.

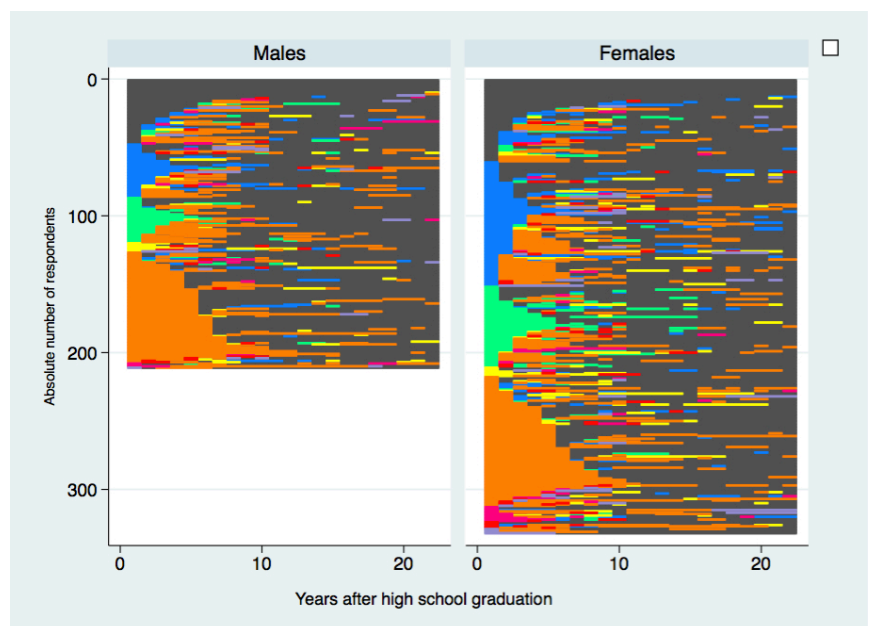
## 2. Post-Secondary Participation by Gender

Gender patterns of participation following high school graduation

are very similar (Figure 5). With a few exceptions, those who commenced their studies at universities were enrolled continuously for at least four years. A sizable proportion of those who enrolled in community colleges in 1988 transferred to universities directly either for the second or third year of their studies. This pattern was stronger for women than for men. Overall on average, women spent 5.5 years enrolled in universities compared to 5.9 for men.

Similarly, transfer from university-colleges to universities is evident and men who transferred stayed enrolled at universities for longer periods of time. A small proportion of men (3%) and an even smaller proportion of women (2%) attended technical/vocational institutions and stayed for around two years. Although small, a larger proportion of women than men commenced their studies at a private institution (3% vs. 1%). Most transferred to another institution for subsequent study. Over the 22 year time period, women were more likely to be engaged in post-secondary study.

FIGURE 5. Post-Secondary Institutional Attendance by Gender, 1988-2010



### 3. Post-Secondary Participation by Post-Secondary Completion Status

Figure 6 portrays the sequences of institutional attendance by three levels of post-secondary completion status: no credential earned; non-university credential (e.g., certificate or diploma) as the highest credential earned; and a bachelor's degree or higher as the highest credential earned.

Although 16% of those who had never earned a post-secondary credential by 2010 had never attended a post-secondary institution, many did attend and attended in traditional ways. That is, they commenced their studies at community colleges, university-colleges, technical/vocational institutes and universities. Although some left the post-secondary system after one year, many – particularly those who commenced their studies at universities – remained continually enrolled for up to five years. Also, a small proportion transferred from community colleges and university-colleges to universities and maintained continuous enrolment for many years.

Overall, those who did not earn post-secondary credentials over the course of 22 years were not likely to pursue formal post-secondary studies beyond seven years following high school graduation.

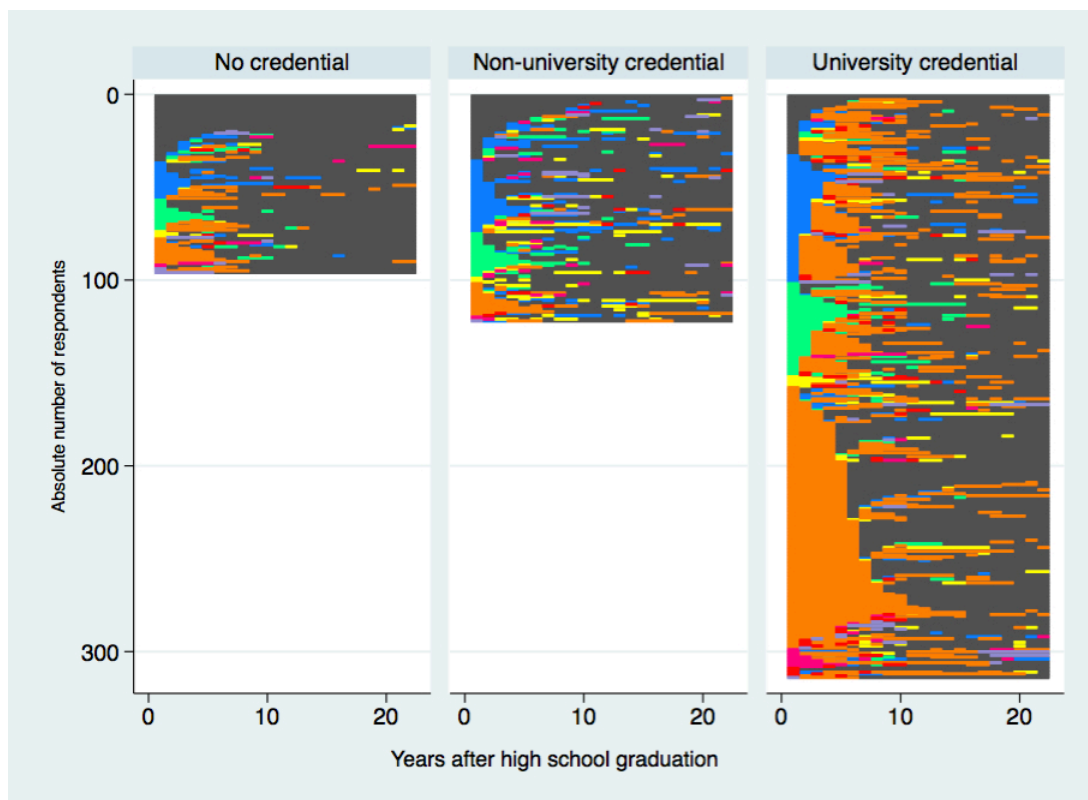
Those with non-university credentials by 2010 also tended to enrol in post-secondary studies directly out of high school. For

those enrolling at community colleges and university-colleges, there is little evidence of transfer to universities. A smaller proportion enrolled in universities in 1988 and either transferred to other institutions or earned certificates or diplomas at universities. Those who delayed entering the post-secondary system for one year tended to enrol in community colleges and university-colleges. This group was moderately active in engaging in post-secondary activities over 22 years.

For those who had earned at least a bachelor's degree by 2010, the patterns of doing so are varied. The largest proportion entered universities directly in 1988 and stayed continuously enrolled for five years, but not in all cases at universities. For those who commenced their studies at community colleges and university-colleges, they either earned degrees at these institutions or transferred to universities (or community colleges and university-colleges that were reconfigured into universities). A small proportion delayed direct entry into the post-secondary system, mostly for one year and then earned degrees either by entering universities directly or transferring from other institutions.

There is considerable post-secondary activity, particularly at universities, for those who have earned bachelor's degrees or higher. Some may have completed the credentials for a bachelor's degree while others were pursuing graduate level study.

**FIGURE 6.** Post-Secondary Institutional Attendance by Highest Credential Earned by 2010, 1988-2010



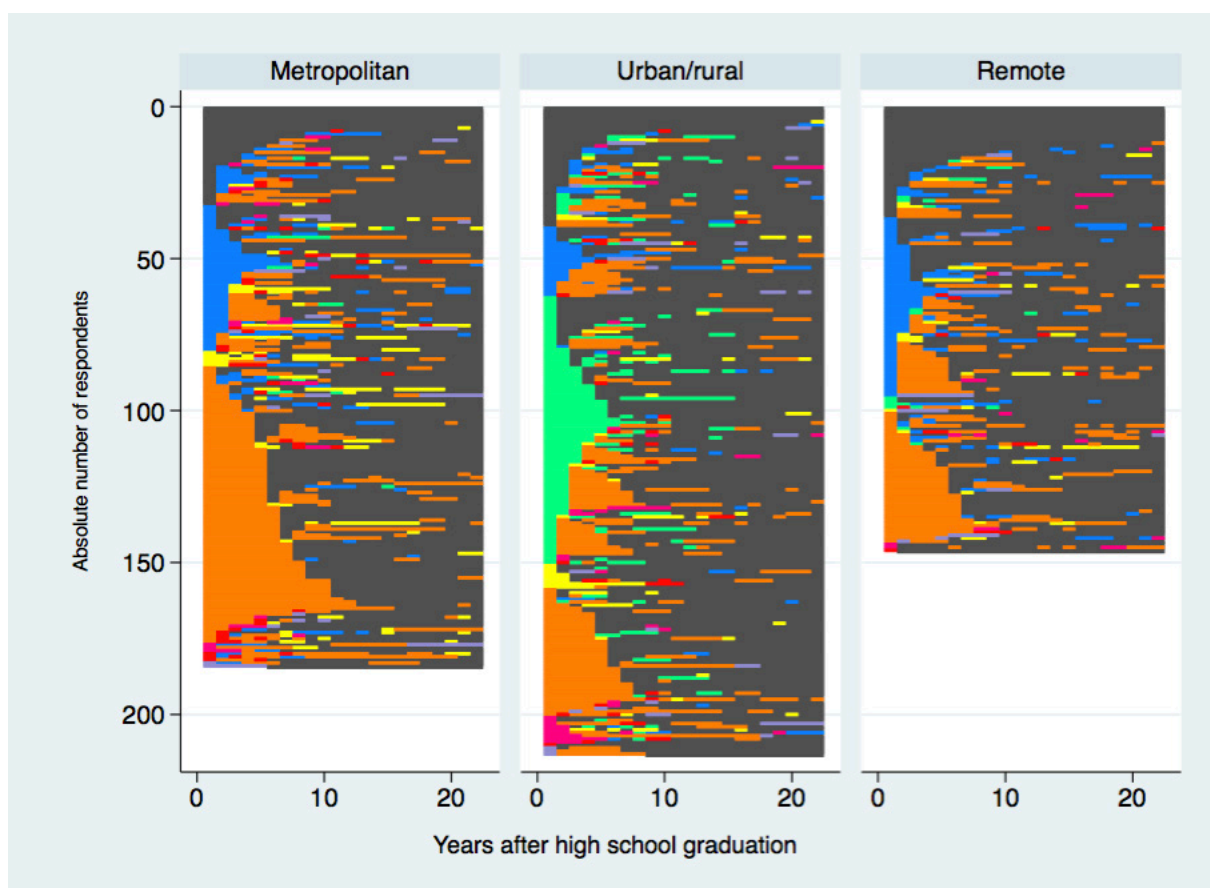
## 4. Post-Secondary Participation by Geographic Location of Origin

In Figure 7, post-secondary attendance is plotted by the geographic region of origin of respondents. Each region shows distinct participation patterns. The vast majority living in metropolitan regions commenced post-secondary studies directly out of high school, primarily at community colleges or universities. Most attending community colleges spent two years there, then either exited or transferred to universities or technical/vocational institutes. A small proportion stayed at community colleges for up to six years. The pattern is similar for those who originated from remote regions. However, a higher proportion of those who did not enter the post-secondary system directly out of high school were likely to remain non-attendees across the 22 year period.

Respondents originating from urban/rural regions were most likely to spend their initial year of study attending university-colleges with a smaller proportion entering universities directly in 1988. Those who commenced at university-colleges either left after one to three years, transferred to universities, or continued their studies for up to five years at university-colleges.

Ongoing participation in the post-secondary system is evident in all geographic regions. However, it is most dense in metropolitan regions with many students attending universities or vocational/technical institutions.

**FIGURE 7.** Post-Secondary Institutional Attendance by Geographic Location of Origin, 1988-20104



<sup>4</sup> Geographic regions in this study were defined according to categories used in many other studies on post-secondary students in British Columbia in the mid-1980s. Definitions are as follows:

**Metropolitan Region:** Includes school districts which are large metropolitan cities or centres.

**Urban/Rural Region:** Includes school districts which are either located in the interior of the province or on Vancouver Island. They generally include communities which are moderate in size and typically have a mixture of urban and rural settlements.

**Remote Region:** Includes school districts which have relatively small populations, typically scattered in small communities. All are located quite remote from the Lower Mainland area of the province. See Andres (1992) for a full description).

## Conclusion

The post-secondary system of BC and elsewhere experienced considerable expansion just as the high school graduating class of 1988 was leaving high school. This expansion has continued over the 22 year period covered in this study. One simple variable – attendance at a particular institutional type – reveals that the *Paths* respondents sequenced through the system in various ways. Traditional patterns of post-secondary entry directly out of high school with either terminal completion or transfer are distinctly portrayed. It is clear, however, that the individuals in this study took advantage of the opportunities and possibilities that the system offers to create their own unique paths through the system. Although ongoing post-secondary participation over 22 years is evident, this analysis cannot determine the reasons for such participation. Do they return to upgrade credentials, to reskill, pursue more advanced studies, or participate as lifelong learners? Additional analyses would reveal these complexities.

One group worthy of further investigation are those who have never earned post-secondary credentials. As the sequence plots reveal, many have invested a number of years and related tuition dollars into post-secondary study, but do not have post-secondary credentials to show for it. Also, this group is the least likely to pursue post-secondary studies into their middle adult years. Based on sequence plot patterns, it appears that non-completion of studies is not due to lack of interest but perhaps other life events that have intervened.

*Paths* respondents who have never attended post-secondary education represent the vast minority in this study; yet, they are a group worthy of further study. How do they fare in terms of employment, income, and life satisfaction? A more detailed examination of this group could reveal the types of policies required to enhance their life chances.

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