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Recent Immigrants

A Comparison of Participants and Non-Participants in Canadian Post-Secondary Education

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EXECUTIVE SUMMARY

In this study, the Longitudinal Survey of Immigrants in Canada (LSIC) is employed to examine the extent to which immigrants utilized the Canadian post-secondary education (PSE) system soon after arrival, the focus being on adult immigrants who had obtained a post-secondary credential in their country of origin, thus allowing for an analysis focused on the experiences in Canada of immigrants who have post-secondary education at time of immigration. The population sample was thus more limited than previous research in this area (Hum and Simpson, 2003; Adamuti-Trache & Sweet, 2007; Bannerjee & Verma, 2009).
Within 6 months of having arrived in Canada, 10% percent of immigrants within our sample enrolled in a Canadian post-secondary education. Within 2 years of landing some 33% were enrolled and, by the 4th year, 44% had participated in either a college or university course or program. In addition to constructing profiles of participants and non-participants at each of the three data collection points in the survey, we employed selected antecedents and correlates of PSE participation to assess the degree of change in enrolment patterns over the four year period covered by the LSIC survey. The longitudinal analysis of PSE participation revealed the importance of immigrant individual attributes and their social networks, as well as work and family situational factors on newcomers' decisions to engage in PSE in Canada.

Following these analyses we addressed more specific questions. The first of these examined the settlement experiences of immigrants. We looked at various indicators of material well-being and satisfaction with the process of integration into Canadian society and noted that few differences in satisfaction with life in Canada were revealed when comparing PSE participants and non-participants. A more specific listing of settlement difficulties was also included and this revealed that PSE participants appeared to have greater job-related difficulties than non-participants.

For those who did plan on enrolling in a Canadian college or university, we examined the barriers they encountered over the initial settlement period covered by the LSIC. Comparisons were made between the particular barriers reported by immigrants who did gain entry and those who did not. We detailed the barriers reported by each group and, additionally, determined the individuals or organizations they called upon to help resolve their difficulties.

It is possible that PSE participants can expect more than economic returns on their investment. The literature suggests that there are 'wider benefits of learning' that accompany the university and college experience (Schuller, Bynner & Feinstein, 2004). In this study, we examined whether learning in Canadian PSE classrooms offers the opportunity to form friendships that extend beyond the individual's ethnic group, as these interactions can serve to 'bridge' differing ethnic or cultural boundaries and thus build social capital.

Findings

PSE participation factors

1. The findings of this study indicate that the primary motivation for immigrants to engage in further study in Canada is economic. PSE participants were less successful than non-participants in successfully establishing themselves in employment and therefore obtaining a Canadian credential can be seen as part of a broader strategy designed to establish the individual in the labour market. Other factors also influenced the decision to enrol. Our sample was limited to those who possessed higher education credentials obtained in their country of origin, and among these relatively well-educated individuals, those with university degrees were significantly more

likely to pursue a Canadian credential than were those with a college degree. Previous higher education appears to dispose immigrants to seek further education as an effective strategy for economic and social advancement.

2. This study finds that gender plays a central role in influencing PSE participation, with immigrant women less likely to enrol in PSE. While it is generally accepted that for women and men, higher education is an effective way to obtain employment, the issue of access for women is complicated by social and cultural biases. These take various forms and may be expressed in the tendency to reinforce gender-specific selections of fields of study (Andres & Adamuti-Trache, 2007). Immigrant women must deal with these systemic biases while at the same time adjusting their own cultural beliefs to a new and different post-secondary system.

3. The domestic situation of recent immigrants is shown in this study to affect their ability to engage in post-secondary education. Most are married and many start expanding their families soon after arriving in Canada. The high cost of child-care is a challenge facing many families in Canada, and may be particularly problematic for recent immigrant families faced with the difficult task of establishing themselves. Their financial priorities often cannot accommodate the education or training of all family members. This is exacerbated by recent increases in PSE tuition and related costs (Berger, Motte & Parkin, 2006). Contrary to Bannerjee and Verma's (2009) findings, the respondents in our sample did indicate that PSE costs were a significant barrier to PSE participation. This is consistent with Kapsalis' (2006) study which showed that a relatively high proportion of immigrants finance their PSE through the Canada Student Loans Program.

4. Another constraint on the decision to pursue Canadian PSE credentials is official language competence. In previous research, this factor has been an important determinant of labour market success; that is, those with better language skills are more successful in finding employment and in advancing their careers. Official language competence is found in this study to play a similar role in the decision to enrol in college or university. This finding is expected given that the ability to speak, read and write in English or French is essential not only to gain institutional entry but to do well in their chosen program of study. While immigrants often qualify for entry by meeting TOEFL score requirements, expressive language remains an issue for many (Grabke & Anisef, 2008).

5. Our analysis also lends some support to those who claim that employers fail to trust the work experiences of recent immigrants and often negate these experiences when immigrants apply for jobs. This perception, particularly acute at 6 months after landing (wave 1 of the survey) diminished significantly by 4 years after landing (wave 3), and may indicate an increased ability by immigrants to 'learn the ropes' and convince potential employers of the relevance of their prior work experiences (it is not possible to control for the demand side of the equation in our analysis, which may also have changed over the 3 waves of the survey). While this issue has led immigrants to turn to Canadian post-secondary institutions, participation in Canadian PSE is also fuelled by ambition. This is demonstrated by the large number of immigrants who had employers recognize previous work experiences in their country of origin as relevant and who still decided to pursue post-secondary studies to further their careers in Canada.

Wider benefits of Learning

6. Previous research on the returns to immigrant investment in Canadian PSE has concentrated on the economic consequences using measures of earnings, employment stability and continuity,

and occupational status. Our research expanded the scope of potential benefits to include the ability of PSE participation to expand the individual's stock of social capital. The particular indicator of social capital examined in this study was the expansion of friendship networks, distinguished by ethnicity – those comprising friends of the same ethnicity as the respondent and those made up of other ethnicities. We find that PSE participation is associated with expanded and more diverse networks -- social capital acquisition represents a potentially positive resource not only in the job-search task but also in enhancing opportunities for career development. While we selected the indicator of friendship networks in this study it would be useful to extend the analysis of social capital to immigrants' involvement with social institutions such as community and cultural organizations.

Conclusion

Overall, this study advances our understanding of the PSE participation process as experienced by recent immigrants. It nevertheless marks only a beginning step toward the understanding necessary to more effectively position the PSE system within the reach of recently arrived immigrants and allow them to more effectively incorporate further learning in the settlement process. Some directions for future research and policy are discussed in the concluding section of the report; these include a greater focus on the capacity of PSE to accommodate and engage recent adult immigrants from culturally diverse backgrounds; more research on immigrant women's PSE participation in the context of family priorities and different cultural traditions; the role of immigrant selection criteria on PSE participation and an assessment of how immigrants finance their PSE courses and programs.

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INTRODUCTION

Existing research suggests that the economic integration of newcomers to Canada may be hindered by an undervaluation or lack of recognition of education and work-related credentials obtained prior to immigration (Anisef, Sweet, and Frempong, 2003; Ferrer and Riddell, 2003; Akhter, Afroza, Chakrawarti, and Rasheed, 2006; Statistics Canada, 2003; Walters, Phythian, and Anisef, 2006; Worswick, 2004). Research further suggests that acquiring Canadian post-secondary education (PSE) may improve employment and income patterns of immigrants (e.g., Adamuti-Trache and Sweet, 2005; Sweetman and McBride, 2004)[1]. Results from the Longitudinal Survey of Immigrants to Canada (LSIC) show that after landing, 67% of recent immigrants with some formal education prior to immigration expressed interest in further education and training in Canada. The majority of newcomers surveyed felt that furthering their education was important to their success in their new country (Chui, 2003).
Despite the role played by post-secondary education in facilitating the social and economic integration of recent immigrants, little research currently exists pertaining to their motivations and experiences with the Canadian post-secondary education (PSE) system. In this paper we use the LSIC to compare and contrast recent immigrant PSE participants and non- participants with respect to a range of factors, including: demographic, social, cultural, official language competency, recognition of employment credentials, employment experiences and social capital. We are particularly interested in the combined effects of these factors in influencing participation decisions and whether the impact of specific factors vary within the four year period after immigrants arrive in Canada. In addition, in a separate descriptive analysis we explore whether participation in PSE relates to variations in settlement experiences (and social capital accumulation) and whether immigrants in the LSIC experienced situational or systemic access barriers to PSE.

There is a growing recognition by policy makers in Canada and other countries of the necessity to invest in adult learning to achieve economic efficiency and equity. It is also generally acknowledged that better knowledge of changes in adult learning patterns including the barriers and motivations to engagement in adult learning is critical to future policy development in the area. (Rubenson et al., 2007). The role played by adult learning and PSE participation in promoting the economic and social integration of recent immigrants in Canada's knowledge based economy is thus an important policy issue. As outlined above, this study seeks to identify factors that impede PSE participation and to inform policy makers of our findings. In the concluding section of the paper, a number of policy and research responses are outlined.

[1] The recent launch of the Canadian Experience Class (CEC) by the Canadian Federal Government is a recognition of these findings, as it provides a more facilitative means for foreign nationals, with educational (and work) experience in Canada, to apply for permanent residence.

Key Objectives and Research Questions

We wish to better understand the effects of demographic, social, cultural, language competency, recognition of employment credentials, employment experiences and social capital on the choice made by recent immigrants to participate in Canadian PSE. Immigrants that participated in Canadian PSE since their arrival with those who do not participate will be compared and contrasted. Given the low PSE participation rates (in Canada) of immigrants who did not have any PSE experience prior to arrival, the sample for this analysis will include only adults (25-49 years of age) who completed PSE (university or 'college') in their countries of origin. Social and economic contexts of both groups (i.e., participants and non-participants in Canadian PSE) will be examined to determine how personal situations enable or constrain enrolment opportunities. We will assess the claims for the 'wider benefits of learning' by examining the relationship between post-secondary education participation and measures of the immigrant settlement experience, specifically, difficulties with learning official language, credential recognition and personal satisfaction with aspects of the settlement experience and the formation/accumulation of social networks over the three waves of LSIC. The paper is organized in two parts. The first part consists of logistic regression analyses oriented to provide an understanding of the factors underlying the participation of recent immigrants in PSE within their first four years of arrival in Canada. The second part is descriptive in nature and focuses on the settlement experience of PSE participants and non-participants; perceived barriers to accessing PSE by immigrants that planned on entering PSE and the identification of strategies employed to gain entry; and the identification of significant variations by PSE status in the use of social networks in accessing and financing PSE.

Part One

What is the combined influence of demographic, social, cultural, official language competency, recognition of employment credentials, employment experiences and social capital factors on recent immigrants in making the choice to participate in PSE? And how do these factors impact participation decisions at various points within their first four years in Canada? This paper employs data from the Longitudinal Study of Immigrants to Canada (LSIC) in order to assess the experiences of recent immigrants that had prior post-secondary education and chose to enrol (or not) in a Canadian PSE institution at different times during this period. The longitudinal nature of the survey allows us to correlate the changes in post-migration PSE participation with evolving work and family characteristics, social capital accumulation, official language acquisition, as well as demographic factors and prior to arrival immigrant attributes. Two analyses will be performed to address the following research questions:

(1) Immigrant personal characteristics, work and family situations, and their social networks will be profiled at each of the three data collection periods – 6 months, 2 years, and 4 years after arrival.
(2) A mixed logistic regression model will be employed. This model uses data from all three waves of the LSIC and allows us to determine the extent to which between immigrant and within immigrant factors account for their postsecondary participation. Since the data are longitudinal (panel data), they allow us to assess whether the impact of factors examined in this regression model change over time

Part Two

In this section, we respond to a series of research questions linked to PSE participation:

(1) Are there significant differences in the settlement experiences (e.g. difficulties with learning an official language, credential recognition, level of satisfaction with life in Canada) of PSE participants and non-participants?
(2) What perceived barriers affect the realization of immigrants' *PSE plans* in getting education and training? What strategies are employed in dealing with these difficulties (e.g., from whom did immigrant receive help)?
(3) Are there significant variations in the use of social networks in accessing PSE between participants and non-participants?

METHOD

The Longitudinal Survey of Immigrants to Canada

This study uses the Longitudinal Survey of Immigrants to Canada (LSIC) Wave 3 data prepared by Statistics Canada. The population of the LSIC includes all immigrants who (1) arrived in Canada between October 1, 2000 and September 30, 2001; (2) were age 15 or older at the time of landing; and (3) landed from abroad and applied through a Canadian Mission Abroad. Three LSIC questionnaires were given to respondents over the years 2000-2004 – at six months (Wave 1) after their arrival in Canada, two years (Wave 2) after landing, and four years (Wave 3) after landing. The approximately 7,700 respondents included in all three waves are nationally representative of approximately 157,600 new immigrants
The survey data facilitates longitudinal analysis of immigrants who responded to the Wave 3 interview, as well as the previous two waves. Thus only respondents who answered at all three waves of the survey are included in the sample. The LSIC data is weighted using a longitudinal weight variable located in the survey. These weights were calculated by Statistics Canada to adjust the estimates to account for the complex sampling design of the LSIC. The purpose of using the weights in the statistical analyses is to ensure that the results can be generalized to the population, rather than simply reflect the demographics of respondents included in the sampling design.

Sample

The research sample is based on LSIC Wave 3 data that includes longitudinal respondents who answered all three LSIC waves. The working or base sample was defined, based on the following criteria, to ensure that respondents have comparable levels of education and no prior educational or work experience in Canada. The sample thus includes:

- respondents who never lived in Canada before immigration.
- respondents between 25-49 years of age at arrival to Canada.
- respondents with post-secondary education completed in their country of origin.

Thus, the sample includes adult immigrants who finished postsecondary education outside Canada and possibly have some work experience. A total of 4100 cases meet these criteria. For the purpose of our analysis, the longitudinal survey weights were rescaled (normalized) so that the size of the weighted sample is equal to the research sample size of 4100 rather than the size

of the population, but proportions correspond to the values in the population[2] This is done to ensure that the correct value for n is used in calculating tests of statistical inference. Results for all analyses are presented according to Statistics Canada requirements[3].

The first part of our study is an explanatory analysis of PSE participation. We construct a predictive model that examines the relationship between prior education and PSE participation, controlling for the various structural, situational, personal and dispositional factors suggested in the literature as correlates of the decision to enrol in a college or university program of study. In constructing a PSE participation model, we define a single sample with non-missing responses to the variables selected for the analysis. Each of the resulting 3740 respondents was surveyed three times, creating a total of approximately 11,210 records for analysis (i.e., 3 rows of data per respondent; in other words, the responses of each of the 3 questionnaires).
Subsequent to modelling PSE participation, in Part 2 of this study, we examine the link between the PSE participation behaviours of our base sample of 4100 respondents and their settlement experiences. This is accompanied by an analysis of perceived barriers to PSE participation (e.g. financial, language). As well, we assess how they activate resources to overcome these barriers. Finally we contrast the extensiveness of social networks for PSE participants and non-participants, viewed as a wider benefit of learning.

LITERATURE REVIEW

Who Participates in PSE and Why?

Not all immigrants are equally likely to enrol in education programs after arrival. According to the Immigrant Human Capital Investment (IHCI) model, immigrants will invest in host-country human capital if the cost of investment is lower than the returns (Duleep and Regets, 1999). Several hypotheses have been generated from this explanation, the first of which has to do with the international transferability of skills from the country of origin to the destination. For many immigrants, human capital obtained in the source country is not fully valued in the Canadian labour market (Bauder, 2003; Li, 2003, 2001; Ferrer and Riddell, 2008; Thompson, 2000). In Canada, it has been estimated that the value of immigrants' foreign education credentials is just two-thirds of the value of schooling obtained by the native-born (Reitz, 2007a); thus, for immigrants with less transferable skills, investment in destination country human capital is less costly (in terms of forgone wages) and will bring about greater returns relative to those with human capital that is more readily transferable. From this, it can be hypothesized that immigrants with less transferable skills – such as those from non-traditional source countries and who do not speak one of Canada's official languages well – are more likely to acquire education credentials following migration.

The IHCI model also predicts that more highly educated immigrants – particularly those with less transferable skills – are more likely to pursue education and training in the host society because the cost of investing in human capital is lower than the costs associated with reduced productivity (Tubergen and De Werfhorst, 2007). At the same time, investment in country-specific human capital is likely to increase the labour market value of credentials and skills

[2] The relative values of the weights are not changed, but they are set so that the mean is 1, and the sum of weights equals the n of cases.
[3] Counts are rounded to the nearest tens and proportions to the nearest unit. Means (and standard deviations) are rounded to the nearest tenth.

acquired prior to migration (Chiswick and Miller 1994; Khan 1997; Friedberg 2000); as Duleep and Regets (1999:186) point out, "upon learning how to use an electric saw, a Cambodian refugee's previous knowledge of carpentry gains value in the U.S. labour market." Highly educated immigrants therefore have more to lose by failing to pursue education or training after arrival, as the opportunity to enjoy returns to previous investments in human capital is lost.

Additional factors that affect decisions to invest in destination human capital are the age of the migrant and the permanency of migration. The working life of immigrants in the host country is naturally longer for those who arrived at a younger age and for those who intend to remain in their destination; thus, it is more profitable for these immigrants to invest in post-migration education. Older immigrants and sojourners have less incentive to obtain educational qualifications relevant to the economy of their host country simply because they are unlikely to reap the rewards of such an investment. For younger and more permanent immigrants, the time in which they can benefit from their newly acquired human capital is obviously longer.

In sum, the IHCI model predicts that younger immigrants who arrive from the non-traditional source regions of Asia, Africa, and Latin America, who speak neither English or French, who are more highly educated, and who intend to live permanently in the host country are more likely to invest in human capital following migration. By and large, empirical evidence supports these hypotheses. Based on United States panel data from the New Immigrant Survey 2003 cohort, Akresh (2007) reported a strong, positive relationship between years of education and school enrolment, indicating that source-country human capital is important in producing host-country human capital (see also, Khan 1997). Tubergen and De Werfhorst (2007) reported similar findings in the Netherlands. In addition to the positive effect of pre-migration education on post-migration education, the authors found that immigrants who had been in the Netherlands longer made more investments in education. Human capital investments appear to be more common among immigrants who are younger and who are unlikely to return to their home country (Hum and Simpson, 2003; Chiswick and Miller 1994; Borjas 1982). And, as the theory predicts, there is empirical evidence that post-migration investment more often takes place when skills are less transferable, either because of differences in English language background or because immigrants have arrived from economically developing countries (Cobb-Clark et al., 2005; Duleep et al., 1999; Khan 1997).

In addition to these findings, it is important to consider the mediating factors that determine the feasibility of post-migration investments in human capital. A young, highly educated Asian immigrant who cannot find employment that is commensurate with his skills may be unlikely to pursue formal education after arrival if he does not have the money to do so, if he is unaware of or unable to access the resources available to him, or if he is expected to financially care for family members at home or abroad. Using data from Statistics Canada's Adult Education and Training Survey, Hum and Simpson (2003) investigated the work-related training and education activity of foreign- and native-born workers in Canada. The authors reported that, when asked about barriers to education and training, immigrants first and foremost reported financial constraints followed by a lack of time, convenience, and availability. Among women, family responsibilities were also frequently reported as reasons for not participating in work-related training.

There is a rich literature related to the settlement experience of immigrants which argues that immigrants experience disadvantage in their host society because they lack social capital (Aguilera, 2003; Aguilera and Massey, 2003; Nee, Sanders and Sernau, 1994; Sanders, Nee and

Sernau, 2002). In the context of higher educational attainment, White, Spence and Maxim (2005) define social capital in the following way: "the networks of social relations within the milieu, characterized by specific norms and attitudes that *potentially* enable individuals or groups to access a pool of resources and supports (p. 67)." Two forms of social capital are commonly discussed: bonding and bridging. Family, friends, and individuals belonging to the same social, cultural, and economic backgrounds comprise bonding social capital; these are the networks that bind individuals together. Bridging networks, though not as strong as bonding networks, include persons of different backgrounds; these are the networks that enable individuals to access resources that are otherwise unavailable. Bonding social capital is particularly useful for immigrants early in the settlement process. Family and friends often factor into immigrants' decisions about the country to which they will migrate and where in that country they will settle. After arrival, newcomers are likely to rely on their bonding networks to learn about settlement services, housing, employment, education, and health services (Kunz, 2005).

Nevertheless, strong bonding networks have the potential to hinder social integration and upward mobility. Research has shown that, in terms of labour market entry, the presence of co-ethnic networks often lead to low-paying jobs in the ethnic economy, particularly for ethnic minorities (Reitz and Sklar, 1997; Sanders et al., 2002). Further to this, research has revealed that participation in an ethnic economy can have negative social consequences; for many immigrants, working in an ethnic economy reduces levels of participation in the social activities of the wider society (Fong and Ooka, 2002). Bridging social capital, on the other hand, is believed to have positive effects on immigrants' integration. The presence of networks in the mainstream society permits access to resources that may otherwise be unavailable, which can lead, for example, to improved labour market opportunities and academic performance, thereby bettering prospects for social and economic integration (Nakhaie, 2008; Li, 2004; Coleman, 1990). In this way, social capital is a tool that is used in the creation of human capital. In the context of post-migration investments in human capital, the presence of social capital, particularly in the form of bridging networks, may enhance an immigrants' access to education.

Wider Benefits of PSE Participation

Returns to investments in host country schooling need not be confined to the labour market. Socio-demographic characteristics, including level of education, proficiency in the charter language, and the length of stay in the host country have been linked to immigrants' social integration (Fong and Isajiw, 2000; Sigeleman et al., 1996; Lee and Yamanaka, 1990). Proficiency in English or French encourages communication and interaction with persons outside of one's ethnic group; a longer stay is likely to increase one's level of social capital through the formation of larger social networks; and a higher level of education might improve one's ability to obtain information about the host society (Fong and Ooka, 2002).

Enrolment in host country educational programs is an additional factor that is likely to contribute to the social integration of immigrants. In addition to increasing one's level of education – and hence their capacity to seek and locate information about the larger society – investments in post-migration schooling can facilitate between-group interactions; assist newcomers in becoming proficient with the host language; contribute to the development of social networks within the larger society; and improve knowledge of the norms and values of the host society. Each of these factors, while useful for improving the economic performances of immigrants, may also be considered requirements for social integration; in addition to improving labour

market opportunities and outcomes, destination schooling can help newcomers overcome the obstacles to successful social integration.

Social integration may further contribute to improved labour market outcomes for newcomers. The absence of social networks, cultural disparities in customs, values, and attitudes, and a shortage of informal labour market skills are thought to hinder the labour market potential of immigrants (Walters et al., 2007; Djajić, 2003). For instance, Reitz and Sklar (1997) revealed that, when controlling for foreign and domestic human capital, economic assimilation tends to be poorer among immigrants whose social networks are confined to their own ethnic group (see also Kunz, 2005; Kalbach and Kalbach, 2000). In addition, Nakhaie's (2008) findings indicated that bridging social capital, as measured by participation in voluntary associations, has a positive impact on the incomes of immigrant women. Thus, the economic impact of destination human capital is not only direct. Education acquired in the destination country helps immigrants build social ties outside of one's ethnic network and gain familiarity with the labour market, thus leading to increasingly accessible jobs in mainstream society, which tend to be higher paying. Hence, social integration may serve to help immigrants overcome barriers to full economic participation.

Investment in post-migration human capital may also facilitate social integration indirectly, through improved labour market outcomes. Galabuzzi (2005:53) argues that, among immigrants, "labour market attachment is critical to integration, identity formation, ability to claim a sense of belonging and ultimately, full citizenship" (see Porter, 1965; Park, 1950). From this, it can be inferred that immigrants who are poorly positioned in the labour market are less likely to become socially integrated, feel as though they belong, and fully participate in the wider society.

Method

The first part of our study is an explanatory analysis of PSE participation. We construct a predictive model that examines the relationship between prior education and PSE participation, controlling for the various structural, situational, personal and dispositional factors suggested in the literature as correlates of the decision to enrol in a college or university program of study. In constructing a PSE participation model, we define a single sample comprising immigrants who have either a university or college credential upon entry.

Subsequent to modelling PSE participation, we will examine the link between the PSE participation behaviours of respondents and their settlement experiences; this will be accompanied by an analysis of perceived barriers to PSE participation (e.g. financial, language). As well, we will assess how they activate resources to overcome these barriers. Finally we will contrast the extensiveness of social networks for PSE participants and non-participants, viewed as a wider benefit of learning.

Variables

Variables employed in this study are listed in Table A1 and are self-explanatory. Other variables are operationalized in this sub-section. The outcome variable describes PSE participation in at least one educational event offered by a post-secondary institution, regardless of duration, within six months, two, and four years since arrival. Language training, regardless of the institution attended, is not included. Post-secondary education includes education and training offered by

Canadian universities, community and career colleges, and institutes (i.e., correspond to the OECD term of formal education[4]). Education or training offered by other providers that does not lead to credentials (i.e., non-formal education), and/or informal education, is treated as PSE non-participation. In Part 1, we use 2-category variables that describe PSE participation at each time period. In Part 2, when examining settlement and barriers to education, we will compare non-participants with those who engaged in PSE activities within four years of arrival.

The variables employed in the regression analyses include a number of demographic factors, prior education and language proficiency. Demographic factors include gender, age, and visible minority status. Level of post-secondary education prior to arrival was coded as 'college' or university. In terms of language proficiency, LSIC respondents were asked to report, at all survey times, their level of competence in English and French. Respondents' self-perception of English or French language proficiency (speaking ability) is reported in Wave 1. We recoded these categories to distinguish between 1) those respondents who speak English or French well or for whom one of the official languages is their mother tongue, and 2) those that speak English fairly well, speak poorly, or not at all (see e.g. Grondin, 2007).

Situational barriers arise from one's life circumstances at each survey time and are reflected in the inclusion of two variables, that is, marital status and having dependent children. Other situational variables are work-related. Employment status is measured as a 4-category variable at 6 months, 2 years and 4 years after arrival (i.e., 4-category variables that correspond to employed full-time, employed part-time, unemployed looking for work, unemployed not looking for work).

Another work related variable that may reflect a disposition by recent immigrants to participate in further education and training is prior work experience acceptance, which is reported at each survey time (i.e., these are 4-category variables that describe that a) work experience was not discussed with a Canadian employer; b) the immigrant tried to have work experience accepted and did not succeed; c) the immigrant tried to have work experience accepted and succeeded in doing so; d) information was not stated because the immigrant did not work prior to arrival).

The formation of social networks is an additional dimension of the socio-economic integration of immigrants to Canada that also impacts PSE participation. The friendship network measure is based on whether immigrants had friends at arrival; whether they subsequently made new friends and the extent to which this new circle of friends consisted of co-ethnics or different ethnic groups.

We further include in the analysis measures of settlement that describe an immigrants' experience in Canada, perception of material well-being, satisfaction with life in Canada and most important difficulties experienced by immigrants. Most settlement measures are available at each wave except overall level of satisfaction in Canada and most important difficulties experienced; these measures are only available in Wave 3. Questions with Likert-scale reponses are often aggregated into lower number of categories due to small n in some cells.

Finally, the analysis contains descriptive statistics of barriers to education and training reported by immigrants who planned to engage in such activities. Some immigrants did not plan on obtaining further education or training, and others who planned on doing so, reported no

[4] OECD differentiates 'formal' education that follows a ladder system and 'non-formal' education that is organized and sustained learning that takes place within and outside educational institutions and is addressed to all ages.

barriers. Therefore, only immigrants who planned education/training and experienced difficulties provided detailed descriptions of the barriers they encountered. Since more than one barrier was identified by some respondents, we report each group of barriers as independent variables. We aggregate barriers to education and training into 6 categories: language; getting information on education; having qualifications recognized; time constraints; money constraints; others.

We further include variables that identify whether or not an immigrant received help in overcoming barriers in their efforts to access education and training, and from whom. The question asked was addressed only to those who perceived barriers. Only those who planned on acquiring further education, actually experienced barriers, and asked for and received help, provided detailed information. Various sources of support were aggregated and multiple responses used to compute the percentages of immigrants who received help from: relatives and friends; school, co-workers; agencies (e.g., government, immigration service providing organizations); and others. Since all who planned to pursue post-secondary education may have experienced barriers, responses were collected from both PSE participants and non-participants.

We note that the survey questions on barriers to education refer to any attempt by immigrants to engage in any form of education/training offered by any provider, not only by post-secondary institutions. However, since post-secondary education is among the most demanding in terms of pre-requisites and costs, we may assume that barriers raised by PSE institutions are among the most difficult to overcome.

Part 1: PSE participation over time

Basis of PSE participation

In this section we examine PSE participation among recent Canadian immigrants over a four year period and how these changes relate to personal or socio-demographic factors (sex, age, visible minority status), human capital factors (level of post-secondary education, proficiency in English and French), situational factors (marital status, dependent children, employment status, acceptance of prior work experience) and social factors (friends network). We first present the characteristics of the research sample and describe selected antecedents and correlates of PSE participation over the four-year settlement period. Changes are described without controlling for demographic, economic, or cultural differences among immigrants in the sample. We then construct a logistic regression model to assess the impact of these factors on participation status.

Sample Description

Table 1 contains descriptive statistics on variables used in the modeling section with a research sample of some 3,740 cases. Time invariant variables consist of demographic measures and characteristics prior to immigration. There are somewhat more male (54%) than female respondents (46%). Most immigrants in this sample are members of a visible minority (82%) reflecting the non-European character of immigrant source countries. The average age of respondents is 35 years indicating that potential PSE enrolees are adult or mature students. Almost 79% of immigrants in the sample obtained a university rather than college level education in their country of origin. By limiting our sample to immigrants with post-secondary degrees we undertake a more focused analysis of the role of Canadian PSE in the immigrant settlement process than has been examined in previous research (e.g. Adamuti-Trache & Sweet, 2007; Bannerjee & Verma, 2009).

Time dependent variables are defined at each of the three data collection waves. It should be noted that self-reported language proficiency in French is relatively low and, on average, does not show significant improvement over time. However, self-reported ability to speak English was consistently above average (2.0) and immigrants demonstrated a measurable improvement in self-reported language proficiency during the settlement period.

Most immigrants in the sample were married at arrival (about 85%) and by wave 3 this proportion increased to 90%. Perhaps more significant was the increase in the proportion of immigrants with dependent children below the age of 18 -- from 64% in wave 1 to 72% in wave 2 and 79% in wave 3. These changes reflect the importance of family obligations as a factor in immigrants' attempts to establish themselves in the labour market.

The employment situation of immigrants steadily improves over the four-year settlement period covered by the survey. Full-time employment rises from 42% in wave 1, to 54% in wave 2, and to 65% in wave 3. The proportion looking for a job also decreases from 21% in wave 1, to 19% in wave 2, and to 12% in wave 3. Overall, immigrants became better integrated into the workforce (e.g. in terms of employment and participation), although in wave 3 about a quarter of immigrants did not participate in the labour market. Consistent with these findings, we also note that the average number of weeks worked increase from 10 in wave 1, to 53 in wave 2 to 72 in wave 3 (e.g., summing cumulatively over the 3 Waves).

In each wave, immigrants were asked to evaluate whether the work experience they acquired prior to immigrating had been accepted by employers. The responses indicate a significant improvement in immigrants' efforts to have their work experience accepted by employers. In wave 1, fully 38% tried but failed to have their work experiences accepted. This proportion declined to 24% in wave 2 and to 12% in wave 3.

We anticipate that social networks formed by recent immigrants, particularly networks based on friendships, would encourage PSE participation insofar as friends provide both advice and support for important decisions. We further suggest that friendship networks which include non-ethnic persons are particularly significant measures of bridging to the larger non-immigrant society. It is plausible that forming new non-ethnic friendships may open up possibilities for better integrating economically and socially, including the decision to enhance the value of one's credentials by enrolling in a Canadian post-secondary institution. The Ethnic Friends scale -- which measures the respondents' degree of association or 'bonding' with individuals of the same ethnicity -- may be interpreted as a measure (low to high) of the individual's attempts at 'bridging' to the Canadian community. From this perspective, participants score relatively low, below or at the average (2.5), with scores of 2.2 in wave 1 to 2.4 in wave 3 which suggests that within 4 years of arrival, recent immigrants are more likely to maintain friendships in their own ethnic community rather than bridging with Canadians.

Finally, the PSE participation rate shows a cumulative increase from 10% in wave 1 to 33% in wave 2 and 44% in wave 3. Clearly, the growth in PSE participation occurred largely within 2 years of arrival which demonstrates the promptness of immigrants' actions.

Table 1. Descriptive Statistics for the variables used in the models (n=3,740)

	Wave 1 Percentage/Mean	Wave 2 Percentage/Mean	Wave 3 Percentage/Mean
Time-invariant Variables			
Sex (Female)	46.3		
Visible Minority	82.3		
Age	34.6		
Prior Education (University)	78.5		
Time-variant Variables			
Speaks English (0 cannot speak - 4 very well)	2.8	3.0	3.1
Speaks French (0 cannot speak - 4 very well)	0.6	0.6	0.6
Married	85.3	88.3	90.0
Children	64.1	72.3	78.7
Employment status			
Employed full time	41.7	53.7	64.6
Employed part time	8.3	10.2	10.6
Looking for a job	20.5	18.7	12.3
Not looking for a job	29.5	17.4	12.5
Work experience acceptance			
Not discussed[a]	33.5	49.1	69.3
Have tried, but not succeeded yet	37.9	24.3	12.4
Work experience accepted	21.4	19.3	11.1
Not stated	7.3	7.3	7.2
Weeks worked in each wave	10.7	52.6	71.6
Ethnic friends (0 high - 5 low attachment)	2.2	2.5	2.4
Participation in Postsecondary Education	10.2	33.0	44.1

[a] *work experience was not discussed with a Canadian employer*

Longitudinal model of PSE participation

Table 2 presents the results of a multilevel logistic regression that predicts PSE participation across the four year settlement period (Raudenbush & Byrk, 2002). It includes the estimated logit coefficients, their standard errors, odds ratios and significance levels for the pooled PSE participation data. We will interpret the model in terms of odds ratios; these ratios are defined in terms of the probability of participating in PSE divided by the probability of not participating in PSE. Findings that are not statistically significant will only be discussed if the finding of non-significance is itself noteworthy.

Model 1 includes all time-independent and-time dependent factors, including a measure of time (wave), while Model 2 also includes the effect of interactions between wave and language proficiency in English. For both models, the Time variable is statistically significant which indicates there is a significant increase in PSE participation. For instance, in Model 1, the odds

ratios predicting PSE participation in Wave 2 and Wave 3 are, respectively, about 6 and 12 times higher than in Wave 1.

Among the individual factors, gender and age are significant predictors of PSE participation. The odds for females in both models reveal that they are less likely than males to participate in postsecondary education in Canada (i.e., the odds ratio indicates that their probability of PSE enrolment vs. non-enrolment is about .30/.70). As expected, older immigrants are less likely to participate in PSE and for every additional year of age the odds ratio decreases by about 4%. Higher order polynomials for age were included in initial models and because they were not statistically significant, were removed from the analysis. The model shows there is no difference in the likelihood of PSE participation by visible minority status.

Prior education also is a significant predictor -- the odds of PSE participation by those with a university education are 1.8 times greater than those with a college degree.

Self-declared proficiency in one of the two official languages is associated with immigrants' engagement in further education. Each increment in the language competency scale increases the odds of participating by some 11% for English speakers and 9% for French speakers.

Situational factors related to the family circumstances of recent immigrants also have an impact on PSE participation. Both marriage and parenthood have negative effects on the likelihood of PSE participation although these effects are not as large as expected. For instance, odds ratios indicate that for those married and having dependent children the probability of PSE enrolment vs. non-enrolment is about .45/.55, suggesting that family obligations are not conducive to participation in formal training or study.

Work-related variables are associated with immigrants' decision to participate in Canadian PSE. The odds ratios associated with employment status do indicate that the most likely PSE participants are those who do not work full-time and those who tried (with or without success) to have their prior work experience accepted by employers. Those who worked fewer weeks in the period covered by the survey cycle also are more likely to participate although this effect, while significant, is not large.

Table 2: Longitudinal analysis of postsecondary participation among recent immigrants (n=3,740)

	Model 1				Model 2			
	Estimate	Std Error	Odds	Sig.	Estimate	Std Error	Odds	Sig.
Constant	-1.581	0.244	0.206		-1.680	0.276	0.186	
Sex								
Female	-0.281	0.065	0.755	***	-0.277	0.065	0.758	***
Male								
Age	-0.043	0.005	0.958	***	-0.042	0.005	0.958	***
Visible minority								
Yes	0.022	0.075	1.023		0.026	0.075	1.026	
No								
Speaks English	0.100	0.025	1.106	***	0.135	0.048	1.145	**
Speaks French	0.088	0.021	1.092	***	0.087	0.021	1.091	***

Prior education								
University	0.601	0.074	1.825	***	0.600	0.074	1.823	***
Non-University								
Married								
Yes	-0.217	0.081	0.805	**	-0.219	0.081	0.803	***
No								
Children								
Yes	-0.243	0.065	0.784	***	-0.247	0.065	0.781	***
No								
Employment				***				***
Employed part time	0.438	0.067	1.549	***	0.436	0.067	1.547	***
Looking for a job	0.302	0.060	1.352	***	0.299	0.060	1.349	***
Not looking for a job	0.296	0.079	1.345	***	0.291	0.080	1.337	***
Employed full time								
Work experience acceptance				***				***
Have tried, not succeeded yet	0.223	0.051	1.249	***	0.225	0.051	1.252	***
Work experience accepted	0.133	0.057	1.142	***	0.138	0.057	1.148	*
Not stated	-0.896	0.132	0.408	***	-0.891	0.132	0.410	***
Not discussed[a]								
Weeks worked	-0.005	0.001	0.995	***	-0.005	0.001	0.995	***
Ethnic friends	0.057	0.016	1.058	***	0.054	0.016	1.056	***
Time								
Wave 2	1.827	0.059	6.214	***	2.152	0.156	8.603	***
Wave 3	2.527	0.069	12.510	***	2.450	0.160	11.592	***
Interaction Wave*English								**
Wave 2 * English					-0.108	0.050	0.898	*
Wave 3 * English					0.023	0.051	1.023	

* p<.05; ** p<.01; *** p<.001 [a] *Work experience was not discussed with a Canadian employer.*

However, employment status is a significant predictor of PSE participation. Those employed part- time were 1.5 times more likely to participate in PSE than were those with fulltime jobs. Similarly, those not employed -- whether looking for a job or not -- were 1.3 times more likely to enrol in PSE compared to the reference group (full-time employed).

A perceived or self-declared perception of an employers' reluctance to accept the work experience that immigrants had acquired prior to their arrival was expected to effect the decision to pursue a Canadian post-secondary credential. The results in Table 2 confirm the strength of this relationship. Specifically, the odds of enrolling in a college or university by those who were not successful in having their work experience recognized were some 1.25 times greater than those who were not in the active labour market. However, while frustration at not having one's work experience recognized by an employer appears to motivate PSE participation, successful recognition is only somewhat less motivating – the corresponding odds ratio comparison for this group was 1.14. While active employment or the desire for employment both encourage PSE participation, it is likely that educational purpose and perhaps, field of study differs depending on whether the individual's goal is job search or career development.

Social capital was anticipated to play a significant role in PSE participation. Social Capital was indicated by a measure of the type of social network (friendship) possessed by immigrants. Developing a more diverse network of friends outside one's ethnic circle has a positive impact on PSE participation.

Comparing the odds ratios in Models 1 and 2 suggests they are stable across the time period under study. The exception to this pattern is the perception of English language competence variable which appears to be moderated by the addition of the interaction term (wave x language). More specifically, the significant interaction between Wave 2 and English proficiency suggests that language acquisition and improvement enhances PSE participation. Since most of the improvement is experienced within the first two years of arrival, the impact on PSE participation occurs primarily in Wave 2.

The regression coefficients of the interaction term were converted into predicted probabilities of participating in PSE in order to examine the extent to which differences in PSE participation are due to differences in language proficiency.

We did this contrasting the extreme values on the English proficiency range – i.e. for someone who speaks English poorly (score of 0 at each time period) and someone who speaks English very well (score of 4 at each time period), holding the other variables constant at typical values (using their respective means for quantitative variables and proportions for categorical variables). Results are shown in Table 3:

Table 3: Predicted probabilities of participating in PSE by poor and good English speakers

Time	Speaks Poorly	Speaks very well
Time 1 (0-6 months)	.05	.10
Time 2 (0-24 months)	.30	.32
Time 3 (0-48 months)	.39	.55

The probability that a typical immigrant with a poor command of English will participate in a postsecondary program is .05 at Time 1. This probability will increase to .55 in Wave 3 for a typical immigrant with a strong command of English. These figures contrast with the marginal totals in Table 1 which show that, without controls, the probability of participating in PSE is .10 at Wave 1 and .44 at Wave 3. As noted in Table 1, the perception of English language speaking ability alters over time and is likely to lead to an increase in PSE participation for immigrants that see themselves as either poor or proficient English speakers.

Part 2: Relationship of Settlement Perceptions, Perceived Barriers and Social Networks to PSE Participation

Perception of settlement

Immigrants' experiences in Canada provide a context for their PSE participation plans. Successful settlement is defined in various ways and may differ from person to person. However, some common indicators of integration include finding employment that is consistent with their qualifications, locating good schools for their children, securing adequate housing and health care, making new friends, and bonding with people in their community.

In Table 4, we contrast immigrants' responses to the question concerning their settlement experience by PSE participation status. On a scale of 1 to 5 -- from completely dissatisfied to completely satisfied -- recent immigrants, on average, rate their settlement experience at a level of '3'. There is not much change in the way they perceive their settlement experiences in Canada over time. Compared with those who participate in PSE, those who do not participate show consistently higher levels of satisfaction with their overall settlement experience. Most immigrants indicated that they would come again to Canada. That is, they do not regret their choice of a destination country. That proportion does, however, decline somewhat over time. Specifically, we found a decrease from 89% (Wave 1) to 83% (Wave 3) for non-participants and a decline from 87% to 82% for participants. Four years after immigrating to Canada, about 1 in 5 regretted their decision to immigrate.

When material well-being in Wave 2 was assessed relative to their circumstance prior to arrival in Canada, immigrants engaged in Canadian PSE expressed less satisfaction than non-participants. A plausible explanation for this finding is that they likely experienced financial hardship associated with their difficulties in finding stable, well-remunerated employment, and as a result decided to "go back to school." At Wave 2, some 37% of PSE participants compared to 33% of PSE non-participants reported their well-being in Canada was worse than before immigration. By Wave 3, only 5% of PSE non-participants and 7% of PSE participants report a worsening of their well-being compared to Wave 2. And when Wave 3 is compared with Wave 2, 61% of PSE participants compared to 57% of PSE non-participants reported an improvement in well-being. This suggests PSE participation may have brought about positive changes in material well-being.

A subjective measure of well-being was obtained with the 'level of satisfaction with life in Canada' variable. This variable assessed satisfaction comparatively between waves and, overall, in Wave 3. It appears that satisfaction improves only slowly from Wave 1 to Wave 2. However, there are dramatic improvements in immigrant sense of well-being from Wave 2 to Wave 3. There are no large differences in satisfaction between PSE participation status groups, Once again, by Wave 3, somewhat fewer PSE participants (68%) than non-participants (71%) were satisfied with life in Canada.

The final indicator in Table 4 is a statement ranking the <u>most</u> important difficulty experienced by recent immigrants since they arrived in Canada. This indicator is available only in Wave 3 and thus reflects immigrant overall settlement experience. Only 2% of all immigrants in our sample reported no difficulties. For the 98% of immigrants who reported difficulties, we show the distribution across various hardships encountered. The most visible differences between PSE non-participants and PSE participants involved job-related and cultural difficulties. While 56% of PSE participants perceive job-related difficulty as most important, only 44% of non-participants identified this as a serious issue. In contrast, only 12% of PSE participants as opposed to 22% of non-participants perceived cultural problems as being most important. It should also be noted that those who engaged in PSE expressed more problems with education/credential recognition than did non-participants. Immigrants, in reflecting on their four years in Canada, identify a lack of employment opportunities as their primary concern. Financial stress was a relatively minor problem for most immigrants. However, to the extent that personal finances are dependent on finding stable employment, the generally positive assessment of their financial situation that a significant number of immigrants made may alter.

Table 4: Perception of settlement indicators			
	Non-participants (n=2320)	Participants (n=1780)	Sig [a]
How was experience in Canada (scale 1-5) [b]			Time: **
Wave 1	3.0	2.9	Time/PSE: *
Wave 2	3.1	3.0	
Wave 3	3.2	3.1	
Wave 1: Would the immigrant come again to Canada (%) [c]			ns
Yes	89	87	
No	11	13	
Wave 2: Would the immigrant come again to Canada (%) [c]			ns
Yes	86	84	
No	14	16	
Wave 3: Would the immigrant come again to Canada (%) [c]			ns
Yes	83	82	
No	17	18	
Material well being in Wave 2 and before immigration (%) [c]			*
Worse	33	37	
Same	29	30	
Better	38	33	
Material well being in Wave 3 vs. Wave 2 (%) [c]			*
Worse	5	7	
Same	38	33	
Better	57	61	
Level of satisfaction with life in Canada W2 vs. W1 (%) [c]			ns
Lower	8	9	
About Same	39	38	
Higher	54	53	
Level of satisfaction with life in Canada W3 vs. W2 (%) [c]			*
Lower	5	6	
About Same	46	42	
Higher	50	53	
Level of satisfaction in Canada (W3) (%) [c]			ns
Very/dissatisfied	8	8	
Neutral	22	24	
Very/satisfied	71	68	
Most important difficulty experienced in Canada (W3) (%) [c]			**
Job-related	44	56	
Education/credentials	5	8	
Cultural	21	12	
Social	9	7	
Financial	5	4	
Other	16	1	

Note: [a] Statistical significance (** p<.001; * p<.05; ns=non-significant); Differences between participant and non-participant groups are tested with: [b] MANOVA (scale mean differences for all 3 waves); [c] chi-square (all other measures).**Note:** The sample here is the original sample of 4100 respondents for whom responses to all of the questions examined in this table were available. Some variability in sample size is due to missing responses in the survey.

Barriers to education and training

Table 5 compares the most significant barriers experienced by non-participants and participants as reported in Wave 1, Wave 2, and Wave 3. It should be noted that respondents to this question

were limited to those who participated in PSE and those who attempted to gain access to a course or program but were unsuccessful.

Table 5: Most important difficulty in getting education or training in Canada (column %)

	Wave 1 (N=1290)		Wave 2 (N=720)		Wave 3 (N=810)	
	NP (N=610)	Part (N=680)	NP (N=340)	Part (N=380)	NP (N=440)	Part (N=370)
Language	25	21	15	13	14	11
Obtaining information re education	23	24	12	16	9	11
Prior qualification not (yet) accepted	7	12	6	11	5	11
Not enough time	11	6	24	11	30	19
Not enough money	25	31	35	39	32	41
Other	10	7	9	11	11	8

Note: Totals correspond to those who declared having problems getting education and training at different survey times. PSE participants are those who engaged at least in one educational event within 4 years of arrival.
Note: PSE non-participants = NP; PSE participants = Part.

There is an obvious shift in the distribution of the most important barriers to education over time, and the chi-square tests of association between reported barriers and actual PSE participation is significant ($p<.001$) in each wave. In Wave 1, both PSE non-participants (25%) and PSE participants (21%) reported language difficulties, and problems obtaining information about education or training. However, for both groups the most significant problem encountered in participating in Canadian PSE were financial constraints – reported by 25% of non-participants and 31% of those who eventually engaged in PSE. A larger proportion of PSE participants (12%) compared to PSE non-participants (7%) reported problems with recognition of their foreign qualifications.

A greater percentage point change occurs between Wave 1 and Wave 2 than between Wave 2 and Wave 3. Language and especially informational barriers decrease in importance, while time and financial constraints become more significant for both PSE participants and PSE non-participants. While time constraints become more crucial for non-participants (increasing from 11% to 24% and 30% from one wave to the next), financial constraints become more significant for PSE participants (increasing from 31% to 39% and 41% from one wave to the next). By Wave 3, over 60% of PSE participants and PSE non-participants reported that either time or financial constraints posed barriers to their engaging in education or training.

Strategies to overcome barriers

To resolve some of the problems experienced in getting education and training, immigrants approached people or organizations and requested assistance or support. Since the strategies employed changed over time, we relate PSE participation status in each wave to supports (e.g. relatives, immigrant service agencies) available during the same time period. Immigrants sometimes receive aid from more than one source, and so multiple responses were recorded. Supports that were most frequently reported were coded into 3 main categories: relatives and friends; school and employer/coworkers; various agencies (government, immigrant, employment). Table 6 contains counts and column percentages showing the distribution of non-participants and PSE participants who experienced barriers getting education, and who did not receive help or received help from a specific source.

For instance, about 1290 immigrants tried to get education/training in Wave 1 and encountered problems in doing so (Table 5). As shown in Table 6, a total of 870 immigrants did not receive any help in Wave 1 to overcome these barriers. However, about 110 of them still succeeded in enrolling in PSE, while 760 proved unsuccessful. Help came from relatives and friends for 240 immigrants, of whom only 40 enrolled in PSE in Wave 1. For 160 immigrants, help came from school, employers and co-workers, but only 30 enrolled in PSE. Finally, about 90 immigrants received help from various agencies, but only 10 became PSE participants. It should be noted that the survey questions regarding barriers and support refer to any education and training, rather than formal education offered by post-secondary institutions.

Table 6: Sources of help received by immigrants who experienced barriers getting education

	Wave 1				Wave 2				Wave 3			
	NP		Part		NP		Part		NP		Part	
	N	%	N	%	N	%	N	%	N	%	N	%
No help	760	79	110	72	400	92	170	95	520	96	140	91
Relatives and friends	200	21	40	28	30	8	10	5	20	4	10	9
No help	760	86	110	81	400	94	170	88	520	95	140	95
School, employer/co-worker	130	14	30	19	30	6	20	12	30	5	10	5
No help	760	91	110	89	400	94	170	92	520	95	140	89
Agencies (immigrant/gov/empl)	80	9	10	11	30	6	10	8	30	5	20	11

Note: PSE non-participants = NP; PSE participants = Part.

Data shown in Table 6 reveal that immigrants who experienced barriers to getting PSE education shortly after arrival in Canada were more likely to request and receive support from relatives, friends, schools, employers or co-workers and various agencies at or around Wave 1 than in subsequent waves. This finding applies to PSE participants and PSE non-participants alike. By way of illustration, in Wave 1, 21% of PSE non-participants and 28% of PSE participants received support from relatives and friends. This level of support diminished significantly by Wave 3, with 4% of PSE non-participants and 9% of PSE participants receiving support. It should be noted that higher proportions of PSE participants received help from all sources at all survey times. However, the proportion of recent immigrants who receive some form of support in resolving barriers that hinder their participation in Canadian PSE is relatively low across all Waves.

Social networks

The development of social networks may be viewed not only as a predictor of PSE participation but also as one of its outcomes. Viewed this way, expanded social networks that result from post-secondary involvement can facilitate the integration of newcomers into Canadian society. In this section we discuss the friendship network formation of PSE participants and non-participants.

Table 7 contains information on the proportion of newcomers who had friends upon arrival, made new friends in Canada, and the proportion networking with friends of the same ethnicity. As we point out in our literature review, immigrants may choose to either 'bond' (network with others in the same ethnic group) or 'bridge' (network with persons in other ethnic groups). Many immigrants had friends at arrival to Canada, and those who had more friends were more likely to become PSE participants. It could be that recent immigrants with the desire to engage in PSE after arriving in Canada are able to turn to existing friendship networks for trustworthy information on Canadian PSE institutions and programs.

A greater proportion of PSE participants (69%) than non-participants (65%) had friends when they arrived in Canada and were somewhat more likely to make new friends by Wave 3. Visible changes are noted over time and some differences in the distribution of friendship networks. For instance, PSE non-participants are more likely to maintain ties with people of the same ethnicity while PSE participants tend to diversify their friendship networks and make friends outside of their immediate ethnic group. These changes in the type of friendship networks occur mainly by Wave 2 and tend to become stabilized in Wave 3. Some differences in the distribution of friends' ethnicity (network type) also occur over time. While 25% of PSE non-participants and 19% of PSE participants declared having only friends of the same ethnicity in Wave 1, only 13% and 8% of PSE non-participants and participants, respectively, subsequently maintained an exclusive ethnic network in Wave 3. The proportion of immigrants who declared making new friends of only different ethnic backgrounds was relatively low at all times (5-9%). Overall, within the first four years of landing in Canada, the majority of participants and non-participants report that all or most of their new friends are of the same ethnicity.

Table 7: Social network indicators (%)			
	Non-participants (n=2320)	Participants (n=1780)	Sig
Immigrants who had friends in Canada at arrival			*
Yes	65	69	
No	35	31	
Wave 1: Made new friends in Canada (%)			ns
Yes	91	92	
No	9	8	
Wave 2: Made new friends in Canada (%)			ns
Yes	96	97	
No	4	3	
Wave 3: Made new friends in Canada (%)			**
Yes	88	92	
No	12	8	
New friends' same ethnicity (Wave 1)			**
All	25	19	
Most	41	45	
About half	12	13	
Few	16	17	
None	7	6	
New friends' same ethnicity (Wave 2)			**
All	13	8	
Most	46	46	
About half	17	18	
Few	19	22	
None	5	6	
New friends' same ethnicity (Wave 3)			**
All	13	8	
Most	44	44	
About half	15	18	
Few	19	22	
None	9	8	

Note: Statistical significance (** p<.001; * p<.05; ns) of differences between PSE participant and PSE non-participant groups are tested with chi-square tests.
Note: The sample here is the original sample of 4100 respondents for whom responses to all of the questions examined in this table were available. Some variability in sample size is due to missing responses in the survey.

SUMMARY AND CONCLUSIONS

In this report we employed the Longitudinal Survey of Immigrants in Canada (LSIC) to examine the extent to which immigrants utilized the Canadian PSE system soon after arrival. Our focus was on adult immigrants who had obtained a post-secondary credential in their country of origin. The sample was thus more limited than previous research (Hum and Simpson, 2003; Adamuti-Trache & Sweet, 2007; Bannerjee & Verma, 2009).

Given the exclusively immigrant sample of the LSIC we did not make comparisons with a native-born reference group. Few empirical studies have compared these groups with respect to PSE participation and access. To our knowledge only Hum & Simpson (2003) have done so in the Canadian context. Using the Adult Education and Training Survey they found that, when asked about barriers to education and training, immigrants first reported financial constraints as a problem, followed by a lack of time, convenience, and availability. Among women, family responsibilities were also frequently reported as reasons for not participating in work-related training. These results were not dissimilar to those reported by native-born adult students. It should be noted that in this study financial constraints were reported by a significant number of immigrants – at all waves of the survey.

Within 6 months of having arrived in Canada 10% percent of immigrants within our sample enrolled in a Canadian post-secondary education. Within 2 years of landing some 33% were enrolled and, by the 4th year, 44% had participated in either a college or university program. In addition to constructing profiles of participants and non-participants at each of the three data collection points in the survey, we employed selected antecedents and correlates of PSE participation to assess the degree of change in enrolment patterns over the four year period covered by the LSIC survey.

Following these analyses we addressed more specific questions. The first of these examined the settlement experiences of immigrants. We looked at various indicators of material well-being and satisfaction with the process of integration into Canadian society and noted that few differences in satisfaction with life in Canada were revealed when comparing PSE participants and non-participants. A more specific listing of settlement difficulties was also included and this revealed that PSE participants appeared to have greater job-related difficulties than non-participants.

For those who did plan on enrolling in a Canadian college or university, we examined the barriers they encountered. Comparisons were made between the particular barriers reported by immigrants who did gain entry and those who did not. We detailed the barriers reported by each group and, additionally, determined the individuals or organizations they called upon to help resolve their difficulties.

It is possible that PSE participants could have more than economic returns on their investment in education. The literature suggests that there are ‘wider benefits of learning’ that accompany the university and college experience (Schuller, Bynner & Feinstein, 2004). Learning in Canadian PSE classrooms offers the opportunity to form friendships that extend beyond the individual’s ethnic group. These interactions serve to ‘bridge’ differing ethnic or cultural boundaries and thus build social capital.

PSE participation factors

According to this study, the primary motivation for immigrants to engage in further study in Canada is economic. PSE Participants were less successful than PSE non-participants in successfully establishing themselves in employment. Obtaining a Canadian credential may form part of a broader strategy designed to establish the individual in the labour market. Other factors are also found to influence the decision to enrol. Our sample was limited to those who possessed higher education credentials obtained in their country of origin. Among these relatively well-educated individuals, those with university degrees were significantly more likely to pursue a Canadian credential than were those with a college degree. Previous higher education appears to dispose immigrants to seek further education as an effective strategy for economic and social advancement.

Gender plays a central role in influencing PSE participation. Our study finds that immigrant women, who land in Canada having received PSE education abroad, are less likely to enrol in PSE once in Canada than are their male counterparts. While it is generally accepted that for women, higher education is an effective way to obtain employment, the issue of access is complicated by social and cultural biases. These take various forms and may be expressed in the tendency to reinforce gender-specific selections of fields of study (Andres & Adamuti-Trache, 2007). Immigrant women must deal with these systemic biases while at the same time adjusting their own cultural beliefs to a new and different post-secondary system.

The domestic situation of recent immigrants may affect their ability to engage in post-secondary education. Most are married and many start expanding their families soon after arriving in Canada. The high cost of child-care is a challenge facing many families in Canada, particularly for recent immigrant families faced with the difficult task of establishing themselves. Their financial priorities may not be able to accommodate the education or training of all family members. This is exacerbated by recent increases in PSE tuition and related costs (Berger, Motte & Parkin, 2006). Contrary to Bannerjee and Verma's (2009) findings, the respondents in our sample did indicate that PSE costs were a significant barrier to PSE participation. This is consistent with Kapsalis' (2006) study which showed that a relatively high proportion of immigrants finance their PSE through the Canada Student Loans Program.

This study finds that another significant constraint on the decision to pursue Canadian PSE credentials is official language competence. In previous research, this variable has been an important determinant of labour market success. Those with better language skills are more successful in finding employment and in advancing their careers. Language plays a similar role in the decision to enrol in college or university. The ability to speak, read and write in English or French is essential not only to gain institutional entry but to do well in their chosen program of study. While immigrants often qualify for entry by meeting TOEFL score requirements, expressive language remains an issue for many (Grabke & Anisef, 2008).

Several factors affect the immigrants' acquisition of the host-country language. Tubergin & Kalmijn (2005) distinguish country of origin factors and receiving country factors. The former include economic indicators such as the country's GDP and trade activity that signal intellectual opportunity. The latter involve the political climate and public sentiment toward ethnic and immigrant integration. By way of illustration, in countries where the political climate towards immigrants is more tolerant, there may be fewer incentives to learn official languages. In this study we included more proximate indicators of the individual's personal situation. Canada's

immigration selection (the 'point' system) does, however, play a role in shaping the personal situations of immigrants. Immigrants come to Canada from linguistically diverse regions and their selection is based on general human capital indicators. As Hawthorne (2007) points out, this process does not ensure competence in English or French. Although applicants who land under the Immigration and Refugee Protection Act (IRPA) are subject to formal language tests, they represent a small percentage of the total annual number of immigrants. Yet our analysis reveals the importance of official language proficiency in taking advantage of Canadian PSE and the role it plays in successfully integrating into the labour force.

Our analysis also lends some support to those who claim that employers fail to trust the work experiences of recent immigrants and often discount these experiences when immigrants apply for jobs. This perception, particularly acute in Wave 1, diminished significantly by Wave 3, indicating an increased ability by immigrants to 'learn the ropes' and convince potential employers of the relevance of their prior work experiences. It should be noted that local labour market conditions and the particular situations of employers were subject to change from Wave 1 to Wave 3. While credential recognition issues have led many immigrants to turn to Canadian post-secondary institutions, participation in Canadian PSE is also fuelled by personal ambition. This is demonstrated by the large number of immigrants who had employers recognize previous work experiences in their country of origin as relevant and who still decided to pursue post-secondary studies to further their careers in Canada.

Wider benefits of Learning

Previous research on the returns to immigrant investment in Canadian PSE has concentrated on the economic consequences using measures of earnings, employment stability and continuity, and occupational status. Our research expanded the scope of potential benefits by examining the ability of PSE participation to expand the individual's stock of social capital. The particular indicator examined in this study was the expansion of friendship networks. These were distinguished by ethnicity – those comprising friends of the same ethnicity as the respondent and those made up of other ethnicities. We find that PSE participation is associated with expanded and more diverse networks -- social capital acquisition represents a potentially positive resource not only in the job-search task but also in enhancing opportunities for career development. While we selected the indicator of friendship networks in this study, it would be useful to extend the analysis of social capital to immigrants' involvement with social institutions such as community and cultural organizations.

Policy and Research Responses

This study advances our understanding of the PSE participation process as experienced by recent immigrants. It nevertheless marks only a beginning step toward the understanding necessary to more effectively position the PSE system within the reach of recently arrived immigrants and allow them to more effectively participate in further learning during the settlement process. Some directions for future research and policy follow.

Language

Our analysis documents that the self- perception of language proficiency in one of the two official languages is associated with immigrants' engagement in further education. Each increment in the language competency scale increases the odds of PSE participation by some

11% for English speakers and 9% for French speakers. Hawthorne (2007) has pointed out that while many countries employ a selection system that is tightly tied to their unique labour market requirements (e.g. Australia), Canada's immigration policy reflects a greater concern with indicators that facilitate the settlement process. The emphasis on education level and official language within the Canadian immigration policy encourages newcomers to consider becoming active learners and adjusting their prior human capital to meet the changing needs of the Canadian workplace. Given this emphasis, it is important that we examine more closely the ability of colleges and universities to accommodate the increasingly culturally diverse student population. As indicated, English or French language competence is a prerequisite to engage in and benefit from PSE but there are many other forms of student support that would support the learning activities of immigrant students. For the most part, these are absent at the university level and form a part of only some college programs (Grabke & Anisef, 2008). More research is needed that identifies the role played by Canada as a destination society in facilitating official language acquisition among recent immigrants for education and work purposes.

Information

A significant minority of PSE participants and PSE non-participants indicated difficulty in obtaining relevant information regarding education with this being particularly pronounced in Wave 1. Thus, a variety of information-based measures could be introduced to provide recent immigrants with relevant information on post-secondary education in Canada. Citizenship and Immigration Canada provides newcomers with a settlement orientation package regarding the existence of settlement services that serve to inform who is entitled to use services and how to access them. Information regarding the benefits of post-secondary education for all immigrants (including women) could be incorporated into the orientation package. Many recent immigrants access and employ human services found in their communities to resolve a variety of settlement related issues (e.g. housing, employment). Efforts could also be made to provide information on Canadian post-secondary education and institutions through community based agencies in the form of brochures, videos and DVD's. Similar information could be made available in different languages through community outreach by contacting ethnic media, religious institutions, social support networks and internet websites.

Gender

Our analysis revealed that gender plays an important role in influencing PSE participation with immigrant women being less likely to enrol than immigrant men, despite the fact that all persons in our sample had taken PSE prior to immigrating to Canada. Public policy formulation at various levels (federal, provincial, municipal) requires the input of gender-inclusive research so that it can become more relevant to the needs and aspirations of all newcomers to Canada and both more supportive and relevant to immigrants' own strategies and efforts to adapt and integrate into the various areas of Canadian civil society. Researchers have noted that, until recently, studies have focused on male immigrants or immigrants in the aggregate, resulting in women immigrants being under studied; this gap in research also has implications for policy development. Boyd (2008), for example, argues that it makes a difference to one's understanding of immigration policy if a gendered perspective is taken rather than a non-gendered one. Particularly for women, it is important to conduct research to gain an understanding of their PSE participation both in the context of family priorities and in relation to different cultural traditions in their source countries.

Ethnicity

Visible minority status was not a significant predictor of PSE participation in our analysis although newcomers who belong to a visible minority group are slightly more likely to enrol in PSE. This contrasts with Bannerjee and Verma (2009) who conducted a detailed analysis of participation in post-migration education (not only PSE) by ethnic groups, and found that ethnicity was an important marker of participation. For instance, they found that Black immigrants were significantly more likely than South Asian immigrants to participate in post-migration education. While several possible reasons for ethnic differences in immigrant PSE participation may be advanced, it would be important for future research to address ethnic as well as region of origin differences in immigrants' settlement strategies, including PSE involvement.

Entry Class

Investment in PSE participation formed the basis of our analysis in this report. As a consequence, an Immigrant Human Capital Investment model and the notion of Wider Benefits of Learning were employed in deciding which variables to include in the logistic regression analysis. Immigration or entry class was not included insofar as the information conveyed by this variable is captured by other variables such as prior level of education, language ability and social adaptability (network). These variables are not only relevant to early PSE participation but are also subject to change during the course of settlement. Future research, based on different assumptions, might usefully examine the role of immigrant selection criteria on PSE participation.

Costs

This study reveals that for recent immigrants, PSE costs comprise an important barrier to their participation in PSE. Given recent increases in tuition and related costs, research is needed to assess how immigrants finance their PSE courses and programs (Berger, Mote & Parking, 2006). Like other adult students, immigrants draw on many sources to finance their PSE. How they access and allocate the various resources in the context of family spending priorities is an area of needed research.

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APPENDIX

Table A1: Variable list		
Variable Name (given in study)	**Variable Names (in the LSIC)**	**Survey Questions and/or Sources of Derived Variables**
Sample	LR1Q015 LR1G007 ED1Q001	Did you ever live in Canada before coming here? Age restrictions Highest level of education completed prior to landing to Canada: PSE completed
Post-secondary participation	Derived variable for PSE participation: ED1Q034/ST1Q014 ST2Q029/ED2Q034x ST3Q029/ED3Q034x	Since you came to Canada, have you taken any education or training? (exclude language instruction) Use Education Roster, all course data to find PSE participation in Wave 1-3, other than language training.
INDIVIDUAL		
Age	LR1G007	Age group of Longitudinal respondent
Gender	LR1Q008	Sex of Longitudinal respondent (M/F)
Visible minority	LR1G045	Visible minority (Y/N)
Level of education	educprior_LR	0= Non-university (post-secondary credential below university level) 1= University
Self-assessment of official language proficiency - speaking	LS1Q003, LS1Q041, LS2Q003, LS2Q041, LS3Q003, LS3Q041, LS1G002	5-category variables: 0=cannot speak; 1=poor; 2=fairly well; 3=well; 4=very well or home language
EMPLOYMENT		
Current employment situation	EM1D320x, EM1Q049, EM1G328, EM2D320x, EM2Q049x, EM2G328, EM3D320x, EM3Q049x, EM3G328	Labour force status during the Waves 1, 2 and 3. To isolate those looking for work → What has been the main activity since last interview? Part-time/full-time current work status.
Prior work experience accepted in Canada	EM1Q009, EM2D009, EM3D009	Has your work experience obtained outside Canada prior to your arrival been accepted in Canada? 4-category variables at each Wave to indicate whether immigrant: - Never tried to negotiate prior work experience or did not look for job - Tried to negotiate, work experience not accepted - Work experience was accepted - Not stated (no prior work experience)
Average number of weeks at work in each wave	EM1D324, EM2D324 EM3D324	Number of weeks worked in Waves 1,2,3
SOCIAL NETWORK		
When you arrived to Canada, had	SI1Q022	Yes/No

friends already living in Canada		
New friends in Canada	SI1Q024, SI2Q024, SI3Q024	Yes/No
New friends from same ethnic/culture group with LR (longitudinal respondent)	SI1Q040, SI2Q049, SI3Q040	6-category variables; 0=no new friends; 1=all; 2=most; 3=about half; 4=few; 5=none
SETTLEMENT		
Experience in Canada	PS1Q004, PS2Q004, PS3Q004	Likert scales 1-5 → Mean scores
Would you come to Canada again	PS1Q005, PS2Q005, PS3Q005	Proportions who would come again
Compare – material well-being	PS2Q010, PS3Q010	3-category variables comparing: Wave2 vs. before immigration AND Wave 3 vs. Wave 2
Compare – level of satisfaction	PS2Q012, PS3Q012	3-category variables comparing: Wave2 vs. Wave 1 AND Wave 3 vs. Wave 2
Most important difficulty	PS3G029	Aggregated in 6 categories (small size) Job-related (find adequate job) Education/credentials (recognition & access education/training) Cultural (language difficulties, adapt to new culture) Social (miss family support, lack social interaction, discrimination) Financial (financial constraints) Other (weather, housing, healthcare, childcare, others)
Level of satisfaction with life in Canada	PS3Q030	3-category variable from 5 categories
BARRIERS TAKING EDUCATION OR TRAINING IN CANADA		
Barriers to education or training – most serious difficulty	ED1Q075,ED1Q076, ED1G117, ED2Q242, ED2G117x, ED3Q242, ED3G117x	Who tried to get education and had difficulties. Most difficulty in getting education or training grouped in 6 categories: Language (01) Getting information on education (02 to 05) Having qualifications recognized (08, 12) Time constraints (06) Money constraints (07) Others (09 to 11, 13,14)
From whom did immigrant receive help?	ED1Q118-ED1Q130, ED2D118x- ED2D130x, ED3D118x- ED3D130x,	Those who tried to get education, had problems and got help → multiple answers, aggregated in: Relatives, friends (119,120) School, co-workers, community (121,125) Agencies (124,128,129)