

ADMN598 Policy Project Draft

**Barriers to postsecondary education facing Aboriginal peoples  
in the North: Spotting the knowledge gaps**

A study prepared for the Learning Branch of Human Resources and Skills  
Development Canada (HRSDC)

Jing (Ariel) Tian

MPA candidate

School of Public Administration

University of Victoria

## EXECUTIVE SUMMARY

This study used a review of the literature and descriptive data analysis to identify what is known and unknown about barriers to access to post-secondary education (PSE) faced by Aboriginal peoples in the North. It involved an overview of barriers to PSE participation faced by the general population and Aboriginal peoples in particular to identify main factors affecting their access to PSE. The study also included a descriptive analysis of data from the 2006 Census to examine relationships between the identified main factors and PSE participation of Aboriginal peoples in the context of the North. The conclusions identified the knowledge gaps in barriers to PSE faced by Aboriginal peoples in the territories and recommended a study as the first step in closing the gaps.

The literature review revealed that both the general population and Aboriginal peoples face a broad range of financial and non-financial barriers to participating in post-secondary studies. Among these barriers are inadequate financial support, insufficient academic preparation, lack of motivation and aspirations, a low level of parental education, geographical distance, language and cultural differences, school-related factors, and personal barriers. The impact of historical barriers and Aboriginal cultures are well studied and recognized as one of the factors that play a significant role in PSE participation of Aboriginal peoples. Given that an individual's decision to attend PSE is affected by a variety of factors beyond the transition stage from secondary education to PSE, a number of factors related to earlier life stages are discussed as well. The study found that Aboriginal peoples faced challenging social, economic, and geographical circumstances not only in their access to PSE but also throughout their entire educational experience.

The descriptive data analysis found that large gaps exist in the understanding of barriers to PSE participation faced by Aboriginal peoples in the North. The analysis showed that while northern Aboriginal peoples lagged far behind their non-Aboriginal counterparts regarding PSE, especially university-PSE, participation, the gaps were also evident between Aboriginal peoples in the three territories. With regard to what is known about barriers to PSE participation faced by Aboriginal peoples in the North, the analysis examined relationships between PSE participation and demographic factors as well as household incomes of Aboriginal peoples in the North. Analysis was also done of the available information on some socio-economic and geographical factors related to the educational experience of Aboriginal peoples in the territories, including available funding resources, family background, parental education, academic performance, historic and cultural influence, housing and health conditions, and distance to schools. The study found that a lack of sufficient statistics and information on the above factors created pronounced obstacles in identifying the specific barriers to access PSE faced by Aboriginal peoples in the North.

One of the identified knowledge gaps was in the understanding of the differences in PSE participation between Aboriginal peoples in Yukon, the Northwest Territories (NWT), and Nunavut. The study found that Aboriginal peoples in Yukon attended PSE (including university-PSE) in numbers that exceeded their counterparts in the NWT and Nunavut.

However, it is unknown what factors contribute to the differences. Therefore, the study recommended a Request for Proposals (RFP) for a new study focusing on PSE participation differences between Aboriginal peoples in the three territories from the perspective of federal and territorial funding policies and student financial assistance programs targeted at Aboriginal peoples in the North. The RFP acted as the first step in closing the identified knowledge gaps.

This study provides an overview of what is known about factors contributing to PSE participation of the general Aboriginal peoples in the North and is an attempt to identify the knowledge gaps in barriers that led to their low PSE participation. It is expected that the proposed research would enhance knowledge pertaining to the specific barriers to PSE participation faced by Aboriginal peoples in the North. Its findings would further contribute to a better understanding of some key social, economic, and cultural challenges of Aboriginal education in the North.

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# 1. INTRODUCTION

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## 1.1 Background and Context

It is well known that a gap exists in postsecondary education (PSE) participation, particularly university education, between Aboriginal and non-Aboriginal peoples in Canada. In 2006, approximately 8 percent of Aboriginal peoples and 23 percent of non-Aboriginal peoples had a university degree while the overall PSE participation rates were 44 percent and 56 percent respectively (Statistics Canada, 2008b, p.19; Statistics Canada, 2010). While Aboriginal peoples show closer proportions of non-university PSE attendance to their non-Aboriginal counterparts, the gaps in university-PSE participation between the two groups appear significant in almost every province (Mendelson, 2006; Statistics Canada, 2006b). Mendelson (2006) also indicated that Aboriginal peoples had to make an increase of more than three times the current rate of university PSE participation in order to fill the gaps (p.21). Given a high proportion of Aboriginal peoples in the territorial population (54%), the North may face more critical circumstances regarding PSE participation of Aboriginal peoples (Statistics Canada, 2010).

With regard to Aboriginal and non-Aboriginal peoples in the northern territories, the gaps in overall PSE participation are more significant. Among the territorial population aged 25 and older, approximately 66 percent of non-Aboriginal peoples had completed PSE in comparison with nearly 36 percent of Aboriginal peoples (Statistics Canada, 2010). As for the university-PSE participation, the proportion of non-Aboriginal peoples with a university degree was more than five times that of their Aboriginal counterparts in 2006 (32% vs.6%) (Statistics Canada, 2010). Additionally, when compared to Aboriginal peoples in the rest of Canada, those in the North show lower levels of PSE participation (36% vs.44%) and specifically university participation (11% vs. 6%) (Statistics Canada, 2010). As a result, Aboriginal peoples in the North have the lowest PSE participation across the country. Therefore, it is indispensable to narrow the gaps in PSE participation, especially in universities, of Aboriginal and non-Aboriginal peoples in the North.

The low PSE participation rates of Aboriginal peoples in the northern territories indicate that northern Aboriginal peoples may face a series of acute barriers to PSE, particularly university education. The barriers can result from a variety of financial and/or non-financial factors. Therefore, the key to increasing PSE attainment is to identify the barriers to attend postsecondary study faced by northern Aboriginal peoples and address those barriers effectively. However, a lack of sufficient knowledge of those barriers creates obstacles for developing and implementing effective programs addressing the issues. Thus, identifying the knowledge gaps becomes the first step in attempting to improve PSE participation of Aboriginal peoples in the North.

In addition, although PSE participation of Aboriginal peoples has been a well-studied area, it is unknown to what extent the identified barriers to PSE faced by Aboriginal peoples in general are applicable to Aboriginal peoples in the North. Not only are there many characteristics shared by various subgroups of Aboriginal peoples, but Aboriginal peoples

in general also share characteristics with other under-represented groups in post-secondary studies, such as young people from low-income families and first generation students. However, such shared features do not imply that the barriers to PSE faced by one of the above mentioned groups can be assumed to be faced by other groups. Similarly, the generalization and applicability of many of the identified barriers to PSE faced by Aboriginal peoples in general cannot be applied to a particular group without investigating the specific context of the group. For instance, Aboriginal peoples residing in the remote and isolated northern communities may face different challenges from those living in the urban areas. Therefore, the key to identifying barriers to PSE faced by Aboriginal peoples in the North is to examine their specific social, economic, cultural, and geographical conditions, and the extent to which these factors affect PSE participation of Aboriginal peoples in the North.

## **1.2 Purpose and Importance of Topic**

The purpose of this project is to review information on factors contributing to low PSE attendance of Aboriginal peoples in the North and to identify gaps in the understanding of how these barriers impede their PSE participation. It includes a literature review of identified barriers to PSE and a discussion of social and economic factors related to educational attainment of Aboriginal peoples in the North. The project is expected to increase knowledge pertaining to the specific barriers to PSE participation faced by Aboriginal peoples in the North and reveal possible approaches to close the knowledge gaps.

The project was undertaken for the Learning Branch of Human Resources and Skills Development Canada (HRSDC). It is expected that this study will enable the Learning Branch of HRSDC to better meet its mandate. The Learning Branch “helps Canadians attend college, university, and trade schools by providing advice, loans, assistance, grants to students, by encouraging individuals and organizations to save for a child’s postsecondary education, and by assisting children from low-income families through grants. It is responsible for programs and services related to learning, including student financial assistance, savings incentives for postsecondary education, and literacy” (HRSDC, 2011, Para.1). The programs and services provided by them include the Canada Student Loans Program (CSLP), the Canada Student Grants Program (CSGP), the Registered Education Savings Plan (RESP), and the Canada Education Savings Program (CESP).

HRSDC has been interested in exploring the possibility of the CSLP providing targeted support to Aboriginal students; however, under the current policy landscape, almost all issues related to Aboriginal peoples fall under the mandate of the Aboriginal Affairs and Northern Development Canada (AANDC) (INAC, 2011a). As far as issues related to higher education of Aboriginal peoples are concerned, AANDC lacks sufficient knowledge of the student financial assistance (SFA) system to conduct the necessary research required to address the issue. Given the collaboration of AANDC with HRSDC on the educational programming, researching the barriers to PSE faced by Aboriginal peoples is within HRSDC’s mandate (Prentice, 2007). The Learning Branch of the HRSDC conducts

research on both financial, and to a lesser extent, non-financial barriers to PSE for students. The current project will be a valuable supplement to the branch's studies in this field. It is an attempt to identify the major factors affecting PSE participation of Aboriginal peoples in the North as well as provide future directions for research.

### **1.3 Glossary of Terms**

Terms related to this study and used frequently throughout this paper are defined below:

- The North: For this paper the term refers to Canada's three territories, i.e. Yukon, Northwest Territories (NWT), and Nunavut.
- Aboriginal peoples: According to AANDC, "Aboriginal peoples" is "a collective name for the original people of North America and their descendants" (INAC, 2011b, Para.1). This term will be used to refer to three subgroups of Aboriginal peoples generally: Indian/First Nations, Inuit, and Métis. The term 'Inuit', 'Métis' or 'First Nations' will be in used when describing these specific subgroups of Aboriginal peoples.
- Non-university postsecondary education: This includes trade school, registered apprenticeship, college, CEGEP or other non-university education (Dennison & Schuetze, 2004; Preston, 2008b).
- Disadvantaged groups: A disadvantaged group is defined as "a group of people who are denied access to needed resources and face barriers to self-sufficiency" (Mayer, 2003, p.2).
- Socio-economic factors: The term refers to sociological and economic factors that describe "characteristics of economic, social, and physical environments in which individuals live and work, as well as, their demographic and genetic characteristics" (Manitoba Centre for Health Policy, 2011, para.1). To a significant, the effects of a socio-economic factor cannot be separated from that of the others due to the interaction of these factors (Spooner & Hetherington, 2004). Income and education are two socio-economic factors used most frequently (Braveman, Cubbin, Chideya, Marchi, Metzler & Posner, 2005, cited in Robert Wood Johnson Foundation, 2009, p.3).

### **1.4 Outline of Report**

The remaining sections of this report are as follows: the methodology section described the research methodologies used for this study, the complexities and ethical considerations of conducting research with Aboriginal peoples, and research limitations of this study.

The next section is a literature review that presented a synthesis of barriers to PSE attendance in general and those faced by Aboriginal peoples in Canada and Australia. Among all other countries that have a great proportion of Aboriginal population, Australia and New Zealand share more similarities with Canada regarding the current status of Aboriginal peoples (Cooke, Mitrou, Lawrence, Guimod & Beavon, 2007). In contrast to the

prominent PSE achievements of Maori people in New Zealand, Australia faces a more pronounced discrepancy in higher education between Aboriginal and non-Aboriginal Australians (Cooke et al., 2007). Thus, Australia was the main jurisdiction, apart from Canada, that the literature scan has focused on.

Following that, section three is a literature review and data analysis regarding a series of key variables related to PSE participation by Aboriginal peoples in the North. This section discussed what is known about factors related to higher education of northern Aboriginals.

Based on the literature review and data analysis in the last two sections, section four produced a conceptual framework which presented the relationships between the identified key factors and PSE participation of northern Aboriginals.

The subsequent section discussed what was unknown about the key factors and identified the knowledge gaps in the current research on Aboriginal PSE issues in the North.

In the final sections of the study, a new study that can contribute to closing the identified knowledge gaps was recommended and a conclusion was reached. A Request for Proposals (RFP) was recommended to the client for conducting a new study on the impact of territorial funding policies and student financial assistance programs and their relationship to the differences in PSE attendance between Aboriginal peoples in the territories. The final part of this study concluded that significant gaps existed in the understanding of factors that led to PSE participation differences between Aboriginal and non-Aboriginal peoples in the North as well as between Aboriginal peoples in the three territories.

## **2. METHODOLOGY**

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### **2.1 Overview and Research Scope**

The methodologies used in this study included a literature review and a descriptive analysis of the secondary data. The predominant part of this study is an extensive literature review that synthesizes information on factors affecting access to higher education and provides an overview of research findings relevant to barriers to PSE. Based on the literature review, a descriptive data analysis was conducted to explore the relationships between some key factors and PSE participation of Aboriginal peoples in the North. The knowledge gaps were identified through a discussion on the findings of literature review and the data analysis.

The research scope of literature reviewed offered a wide range of conference papers, editorials, books, and other literature, which are relevant to accessibility in education. Research concentrating on postsecondary education in Canada and other jurisdictions have also been examined, reviewed, and analyzed. Additionally, included in the literature review is an analysis of reports and similar documents from federal, provincial, and territorial governments, think tanks, and other non-government organizations. The timeframe of literature searched was on work published between 2000 and 2011, although a few papers produced in the 1990s were also reviewed.

The literature review is presented in section three and section four of the study. Section three is focused on recent research that contains analysis on barriers in accessing PSE faced by Canadians in general as well as those targeted at factors affecting PSE attendance of Aboriginal Canadians and Australians. The above literature was obtained through journal searches, library keyword searches, online keyword searches, and references found in the literature. Research activities were undertaken on Google and Google Scholar Internet search engines, EBSCO Research Databases of the libraries of University of Victoria, University of Alberta, and the University of Ottawa as well as at the HRSDC Library and the Ottawa Public Library.

The inclusion and exclusion of literature was determined by the abstract, table of contents, and main findings of the publication. Abstracts and table of contents assisted in determining whether the study addressed issues related to educational attainment of the Aboriginal population or discussed barriers to PSE participation faced by Canadians in general. Main findings and abstracts revealed recent trends in studies of access to PSE. Since most of the literature in Canada has discussed Aboriginal peoples in general and First Nations tend to receive more attention than other Aboriginal identity groups, measures have been taken to locate studies on other Aboriginal populations such as Inuit and Métis.

In terms of the descriptive data analysis, the data were exclusively drawn from the 2006 Census. The Census has been popularly used as an important data source for many studies on Aboriginal issues because of its inclusion of information of both on-reserve and off-reserve Aboriginal peoples in Canada (Wright, 1993). Currently, census data play a predominant role in providing socio-economic information on Aboriginal peoples in the

North. Data retrieved from the 2006 Census were related to non-university and university PSE participation of northerners, high school completion rates, the median household incomes of the Aboriginal population in the North, mobility of highly educated people, and proportion of Aboriginal peoples in the territorial populations.

## **2.2 Research Questions**

The main research question to be answered was:

- What is unknown about barriers to access PSE faced by Aboriginal peoples in the North?

The question contains several sub-research questions:

- What are the main barriers to access PSE faced by Canadians in general and Aboriginal peoples in particular?
- What are the key demographic, socio-economic, and geographical factors that have an impact on Aboriginal students pursuing higher education?
- What is known about the relationship between the identified key factors and PSE participation of Aboriginal peoples in the North?
- Are the key factors associated with PSE participation of Aboriginal peoples in the North? Does the available information provide sufficient evidence for identifying such a relationship?
- What kind of information is needed to identify barriers to PSE faced by Aboriginal peoples in the territories?

## **2.3 Complexities of Conducting Research with the Aboriginal peoples in the North**

Researching Aboriginal peoples in the North is a challenging task due to the complex issues related to Aboriginal jurisdiction, language and cultural differences, geographical location, and harsh climate. Given Aboriginal peoples holding jurisdiction over their culture, knowledge, and heritage (Ermine, Sinclair & Jeffery, 2004, p.7), researchers must follow relevant principles and protocols of research ethics in the undertaking of any studies related to Aboriginal issues. Due to restraints of financial and research capacity, this study did not involve in first-hand data collection or any Aboriginal individuals or communities. However, the complexities of conducting research with Aboriginal peoples can be a challenge of the recommended Request for Proposals (RFP).

Although the specific methodologies used in the study proposed in the recommended RFP will be determined by the contract researcher(s), it should be noted that a variety of challenges created by the complex research environment of the study are the foremost considerations in developing research strategies and choosing proper research approaches.

As noted previously, the Census data plays a predominant role in providing socio-economic data on Aboriginal peoples residing in both on- and off- reserves. In comparison with their southern counterparts, Aboriginal peoples in the North have received less attention from many surveys conducted at the national level. Apart from the census, Statistics Canada has a few other surveys, such as the *General Social Survey (GSS)* and the *Homicide Survey*, that have collected data on Aboriginal population in the North. Also, AANDC, provincial/territorial governments and other organizations can be useful data sources. In the event of insufficient data from the available sources, a first-hand data collection would be necessary.

Conducting first-hand data collection can be quite challenging in the territories with regards to the language and cultural barriers, sparsely distributed population, harsh weather, and high financial costs. There are 18 First Nation communities in Yukon, 28 Inuit communities in Nunavut, and 25 First Nation communities, 6 Inuit communities, and 3 Métis communities in the NWT (Aboriginal Canada Portal, 2011). The diversity as well as the cultural and linguistic differences implies the necessity for a wide variety of approaches geared towards specific communities. It is critical to choose appropriate research techniques, design suitable questions, and follow a research protocol that is culturally sensitive (Grenier, 1997, Section 4). Nevertheless, it is unavoidable to lose some information due to translation issues during the process of either data collection or data analysis (Grenier, 1997). The process of data collection can be “laborious, time-consuming, costly, and sometimes disappointing” (Adugna, 1996, cited in Grenier, 1997, Section 4). Therefore, it is crucial for the researcher to overcome cross-cultural barriers, have clear objectives, and be able to differentiate between valuable and improbable information (Grenier, 1997).

## **2.4. Study Limitations**

In addition to the challenges of researching Aboriginal peoples, this study has the following limitations:

- This study does not involve exploring the differences in PSE participation between Aboriginal subgroups, i.e. First Nations, Métis, and Inuit, as well as between Aboriginal peoples residing on and off reserves. This study is to provide an overview of what is known and unknown about barriers to PSE faced by northern Aboriginals in general. The reasons for excluding comparisons between the above Aboriginal groups are listed below:
  - It requires more data and information on Aboriginal peoples in the North. First Nations, Métis, and Inuit peoples are distributed sparsely across the three territories. Their educational attainments are not only subject to the influence of federal and territorial policies and programs targeted at each Aboriginal subgroup, but also to the different policies and programs implemented in each territory. As for researching the educational difference between on- and off- reserve Aboriginal peoples in the North, similar

challenges exist. Considering the knowledge gaps in relevant socio-economic conditions of Aboriginal peoples in the North, it is inappropriate to compare the Aboriginal subgroups or on- and off- reserve Aboriginals across the North at present;

- It increases the complexities and expands research scope of this study. The comparison would require an exploration into the PSE participation differences between Aboriginal subgroups across Canada first. Based on the obtained information, it is necessary to compare the PSE participation rate of Aboriginal subgroups between northern and southern Canada as well as the factors contributing to their PSE attainments. The differences in related federal, provincial, and territorial policies and programs become a concern again;
  - The comparison is more proper for a larger research project with a certain level of financial support. Therefore, the differences in PSE participation between Aboriginal subgroups in the North were included into the recommended RFP as a sub-research question that will be addressed in the new study.
- There are some problems related to Census data on Aboriginal peoples (CMEC, 2010; Drummond & Burleton, 2009; Wright, 1993). A great number of Aboriginal peoples did not participate in the Census and those residing off reserves were over-represented in the sample (Drummond & Burleton, 2009; Wright, 1993). Also, sampling became an issue due to small sample size of Aboriginal population in some communities (CMEC, 2010). The North has a lower number of Aboriginal peoples than southern Canada. The significantly different sample sizes can affect the validity of comparison between Aboriginal populations in the North and the South;
  - Despite the efforts made towards conducting a comprehensive literature search on relevant data on the social and economic conditions of Aboriginal peoples in the North, available data and information were insufficient to provide substantial answers to some of the research questions;
  - While some literature related to the topic of this study were identified and reviewed, not all of this literature was included into the literature review section of this study because of two considerations. First, the literature review did not include all reviewed literature that was related to educational issues of Canadians in general as well as Aboriginal peoples in particular. In the event that some literature shared similar perspectives on a research theme, those with stronger evidences were included into the literature review; second, this study included few reports and documents that had focused on a case study or a survey targeted at a small size of participants. It is unknown whether the findings of these studies could be generalized for people in a different group or people in general.

### **3. AN OVERVIEW OF BARRIERS TO PSE PARTICIPATION**

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The barriers to accessing postsecondary education have been extensively studied in Canada and other jurisdictions. Most of the literature explores the issue from both financial and non-financial aspects while putting emphasis on the different elements (Berger, Motte & Parkin, 2007; Cogem Research Inc., 2001; First Nations Education Steering Committee, 2005; Knighton & Mirza, 2002; Looker, 2002). The review is to provide an overview of research findings on factors that impede Canadians in general, Aboriginal Canadians, and Australians from attending higher education respectively. The findings were derived from either studies that explored the issue from the national perspective or research that focused on programs and practices within a community. The review is intended to present the identified barriers to higher education faced by the general population and Aboriginal peoples. It also serves as guidance for discussing factors related to PSE participation of northern Aboriginals in the next section.

According to the 2006 Census data, Canada exceeds all other countries of the Organisation for Economic Co-operation and Development (OECD) in the rate of its population with higher education and the number of Canadians with university degrees keeps growing (Statistics Canada, 2008b). However, educational gaps and the under-representation of certain groups in post-secondary studies indicate the existence of barriers to PSE faced by disadvantaged groups. The under-represented groups in PSE include “Aboriginal students, students from low-income families, students from families with no history of PSE (first-generation students), students living with physical conditions that impede their activities, and students living beyond commuting distance from postsecondary institutions” (Palameta & Voyer, 2010, p.4; ACCC & HRSDC, 2008).

It is noteworthy to mention that not all of the disadvantaged groups encounter exactly the same barriers to higher education. The under-represented groups in PSE are disadvantaged in different ways, which is seen in the characteristics of each disadvantaged group. Although some disadvantaged groups are under the influence of similar socio-economic factors, the extent to which the factors impact PSE participation of the disadvantaged groups is likely to be different. Each disadvantaged group faces a series of barriers to PSE and the solutions for removing those barriers would thus vary from one group to another (Mayer, 2003). Moreover, it is likely that the interaction of multiple barriers is what ultimately leads to the under-representation of those groups in PSE and the combination of barriers are complex and vary for group to group (Berger, Motte & Parkin, 2007; CCL, 2009b; CSA, OSTA-AECO & OUSA, 2011; Educational Policy Institute, 2008). Therefore, no initiatives or programs would be successful in closing the educational gaps without tackling all involved barriers.

Being one of the disadvantaged groups, the low representation of Aboriginal students in postsecondary studies has received the increasing attention of both academics and policy makers in Canada as well as in other countries that have significantly large Aboriginal populations. Based on the United Nations Development Programme (UNDP)’s Human

Development Index (HDI)<sup>1</sup>, a recent study finds that Aboriginal peoples lag significantly behind other populations in Australia, Canada, New Zealand, and the United States (Cooke, Mitrou, Lawrence, Guimod & Beavon, 2007). According to the study, Australia shows the most pronounced discrepancy in regards to education, health, and living conditions of Aboriginal peoples while the HDI gap between Aboriginal and non-Aboriginal populations has narrowed in other countries (Cooke et al., 2007). Comparatively speaking, New Zealand is leading the way in regard to higher education of Aboriginal peoples with 19.6 percent of Maori participating in PSE while the corresponding rate for all New Zealanders was 12.4 percent in 2009 (Government of New Zealand, 2010, Table 7). Given such a prominent presence of Aboriginal peoples in PSE participation, New Zealand focuses more on issues related to the retention of Maori students in PSE rather than their access to higher education (Ministry of Education, 2007). Considering the high educational attainment of Maori people in New Zealand and the similar historical and current contexts shared between the Commonwealth nations, the literature review section will focus less on barriers to PSE in New Zealand but more on those in Australia and Canada, particularly the latter.

### **3.1. A Synthesis of Barriers to PSE**

Prior to exploring factors contributing to the low PSE participation of Aboriginal peoples, an overview of barriers to PSE faced by the general population across Canada can provide insight into the common challenges of attending higher education encountered by Aboriginal peoples and their non-Aboriginal counterparts. Some recent studies have highlighted three factors as predominant barriers to PSE: motivation and information; financial support; and, academic performance (Berger et al, 2007; Educational Policy Institute, 2008; Malatest & Association, 2007). Apart from discussing the above barriers, this section will also emphasize the impact of parental education on children's PSE and address other key factors, such as distance to postsecondary institutions, differences in language and culture, and school-related factors. The following section is a brief description of what the literature has discussed about barriers that prevent individuals from accessing PSE in general.

#### **3.1.1. Motivation and information barriers**

Lack of motivation or necessary information on PSE discourages students pursuing higher education. Some studies argue that lack of motivation and information is the most significant barrier to the pursuit of PSE (Berger et al., 2007; Junor & Usher, 2004; Malatest & Association, 2007). Motivation and available information are closely related in how they impact a student's decision to continue with PSE.

On the one hand, the quality and timeliness of information would arm students with necessary knowledge of PSE and help them build up their aspirations of pursuing higher education (Educational Policy Institute, 2008; Rounce, 2004). Low motivation in pursuing

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<sup>1</sup> Human Development Index (HDI) is “a composite measure of achievements in three basic dimensions of human development – a long and healthy life, access to education and a decent standard of living a country's average achievements” (The UNDP Human Development Report Office, 2010, p.26).

postsecondary studies can lead to lack of knowledge of students or their parents regarding cost of PSE, the economic return of further schooling, the choices of available financial aid for PSE, postsecondary programs available, standards for admission, and the application process of PSE. Most students obtain the PSE-related information from their teachers, education counselors, family, and friends (Looker, 2002). However, many schools fail to provide sufficient and updated information to meet the needs of students (Cogem Research Inc., 2001). Many high school students do not know about the costs of PSE and are not well informed about types of financial assistance available (Berger et al, 2007; CMSF, 2006). Some researchers find that Canadians generally tend to over-estimate the cost of PSE and a great number of parents lack the financial preparations necessary to help their children meet the cost of further studies (Berger et al., 2007; Educational Policy Institute, 2008; EHOS, 2009). The over-estimated cost of PSE can discourage many students from pursuing PSE or from choosing university PSE over non-university options.

On the other hand, a student's educational aspiration affects his/her attitude towards information. With a strong determination to pursue PSE and to realize a career goal, students can be motivated to actively obtain information on higher education and how to be prepared for it. As for those with low educational aspirations, it is possible that they would not go to PSE or even drop out of high school even though they are armed with sufficient information. Therefore, having appropriate information when students need it most is crucial for them in making decisions regarding PSE.

Both motivation and information are under the influence of many factors, including the educational level of parents, financial conditions of family, role models in life, and channels to necessary information (Berger et al., 2007; Cogem Research Inc., 2001; Foley, 2001; Looker, 2002; Malatest & Associates, 2007; Rounce, 2004). Therefore, although a student's aspiration plays a significant role in his/her PSE attendance, motivation, and access to information cannot be discussed without involving other factors, which exert a joint influence, along with motivation and information, on the student's pursuit of higher education.

### **3.1.2. Financial barriers**

The impact of finances has been one of the most extensively studied areas with regards to PSE attendance. Consistently, financial issues have been cited by PSE non-attendees as a barrier greater than other factors (Berger & Motte, 2007; CMEC, 2003; Corak, Lipps, & Zhao, 2003; Malatest & Associates, 2008; McCall, 2007; Muller, 2008; Rounce, 2004; Sussex Circle Inc., 2002). Financial barriers are usually generated from lack of family financial support or/and insufficient financial aids.

Financial support provided by family members is an important source that some students primarily rely on (Malatest & Associates, 2007; McCall, 2007; Sussex Circle Inc., 2002). Results of the *Postsecondary Education Participation Survey* (PEPS) show that over half of postsecondary students that participated in the survey received financial help from their families to pay their PSE expenses (Shipley, Ouellette, & Cartwright, 2003). Also, there is

consensus among researchers on the correlation between family incomes and PSE attendance, i.e. the higher the family incomes is, the more likely their children will pursue higher education, particularly university (Corak et al, 2003; Educational Policy Institute, 2008; Knighton & Mirza, 2002; Muller, 2008). Family incomes is associated with both the likelihood of saving for a child's university studies and the length of time that parents have been saving (CMSF, 2006). According to the *Survey of Approaches to Educational Planning* (SAEP), the median amount of money that parents living in household incomes with \$85,000 or more contributed to saving for their children's PSE was up to three times higher than those with household incomes of less than \$25,000 in 2001 (Shiple et al., 2003). Also, parents with low incomes are less likely to save sufficient money for their children's education (Berger et al., 2007). Thus, compared to students from middle- and upper-income families, those from low-income families are less likely to continue their schooling due to lack of financial support (CMSF, 2006; Corak et al, 2003; Knighton & Mirza, 2002).

In addition, the financial conditions of a family play an important role in the types of higher education that children receive. Family incomes are likely to have a stronger impact on university participation rates than other types of PSE (CCL, 2009b; McCall, 2007; Rounce, 2004). Students from the lower income families are more likely to go to college, whereas university is a more popular route for those from higher income families (Knighton & Mirza, 2002). According to the *Survey of Labour and Income Dynamics*, participants from the top family income group were twice as likely to receive a university education as their counterparts that came from families from the lowest income group (Rahman, Situ & Jimmo, 2005; Rounce, 2004). Moreover, the survey results indicate that university attendance rates are positively related to family income (Rahman et al., 2005). It is evident that the available financial support from families has a great impact on, not only children's access to higher education, but also the type of higher education they receive.

Apart from family support, students can obtain financial assistance from student loans or other grant programs. Findings of the *Class of 2003* shed light on the typical financial barriers faced by most of high school graduates. The study argues that students' reluctance to bear the burden of student loans has a more significant impact on their pursuit of postsecondary studies than other factors (Malatest & Associates, 2007; Muller, 2008). Many students are afraid of incurring a large amount of debt because of PSE and are unsure of the benefits of receiving further education (Berger & Motte, 2007; Cogem Research Inc., 2001; Foley, 2001; Looker, 2002; Rounce, 2004; Sussex Circle Inc., 2002). Muller (2008) argues that student loans have less of an impact on PSE participation of students from low-income families than grants. Other studies show that cash constraints of student loans and grant programs has been regarded as another important barrier faced by potential students (Educational Policy Institute, 2008; Junor & Usher, 2004; Malatest & Associates, 2007). Therefore, not only are many potential students of PSE unwilling to take out loans to pay their PSE costs, but limitations of student financial assistance programs also prevent those students from acquiring sufficient financial support.

Due to the insufficient financial assistance and loan aversion, students from low-income families are more likely to have a lower level of education and enter the labour market earlier. However, lack of financial support cannot be taken as the sole barrier to higher education faced by students from low-income families. Family incomes are closely connected with educational attainments of parents (de Broucker & Lavallee, 1998; Finnie, Laporte & Lascelles, 2004; Shaienks & Gluszynski, 2007). Furthermore, financial conditions of a family and parental education would have a major effect on the home environment, available information, and children's educational aspirations. Therefore, the under-representation of students from low-income families in the PSE, particularly university education, is most likely the result of an interaction effect of financial and non-financial barriers (CSA et al., 2011).

### **3.1.3. Academic barriers**

Academic barriers to PSE participation include high school incompleteness and lack of sufficient academic preparation. Completing high school successfully is the first step towards PSE. High school incompleteness rates are usually higher among young people in rural areas (TD Economics, 2010). Thus, increasing high school completion rates is likely to contribute to narrowing down the PSE educational gap between people residing in rural and urban regions. Academic performance and related skill levels also play a significant role in access to PSE. As suggested by the literature, a student's PSE participation is closely associated with his/her academic performance in secondary school (Berger et al., 2007; Rounce, 2004). Due to the entry requirements of many PSE programs, those who did not perform well in secondary school, are less likely to attend PSE, university in particular, and may prefer to drop out of secondary school and seek opportunities in the labour market (Berger et al., 2007; Preston, 2008b). According to a recent study, students with secondary school grades below 70 percent have a lower likelihood of continuing on to PSE than their counterparts with grades of 70 percent and above (Barr-Telford, Cartwright, Prasil, & Shimmons, 2003, p.6). Results from the *Youth in Transition Survey* indicate that approximately 60 percent of youth with an overall high school average of 80 percent or more go to university (Lambert, Zeman, Allen, & Bussiere, 2004).

Not only does inadequate academic performance create difficulties in meeting the admission requirements of post-secondary programs, but leads to a less likelihood of obtaining a scholarship or a grant to cover PSE expenses (Government of Manitoba, 2000; Tomkiewicz & Bushnik, 2003). Consistent with these findings, both the *Youth in Transit Survey* and the *Class of 2003* data indicate that approximately 7 percent of high school graduates who did not attend PSE perceived their low marks to be the primary obstacle to pursuing higher education (Malatest & Associates, 2007). This finding suggests that academic entrance requirements for many PSE programs are more likely to be barriers faced by those who have inadequate academic performance in secondary school.

### **3.1.4. Low level of parental education**

Parental education plays a key role in determining whether the child will continue on to post-secondary study after completing high school (CSA et al., 2011; Rounce, 2004; Shaienks, & Gluszynski, 2007). There is a longstanding argument that the higher level of the parental education, the more likely the child will go on to PSE (de Broucker & Lavallee, 1998; Finnie et al., 2004; Rounce, 2004; Shaienks & Gluszynski, 2007). Not only do students that have well-educated parents show a higher likelihood of obtaining a PSE degree, but they also show a higher rates of university participation than students of parents with lower education (de Broucker and Lavallee 1998; McCall, 2007; Shaienks, & Gluszynski, 2007). This argument has gained more support from a recent study which found that first generation students are nearly 50 percent less likely to participate in higher education than those with well-educated parents (Berger et al., 2007, p.25).

In fact, parental education levels are found to exert a stronger influence than family income in children's PSE participation (Knighton & Mirza, 2002; Rounce, 2004). Apart from having higher family incomes, parents with higher level of educational attainment are more likely to buy books for their children, read to their children, and create a better learning environment for them (Berger & Motte, 2007; Drolet, 2005). It had also been found that parental attitudes towards PSE are often associated with their children's academic achievements (Bougie, 2009; Malatest & Associates, 2007). Amounted evidence indicate that parental support of children's education and their strong encouragement and engagement play a key role in a child's educational attainment (Bougie, 2009; Drolet, 2005; Malatest & Associates, 2008). Considering that parents serve as role models in children's lives, it is clear why values, attitudes, and expectations passed on by parents has a great influence on children's decision of going on to PSE. In addition, parents with PSE experience have more information on factors related to PSE and are better prepared for their children's higher education (Malatest & Associates, 2008). Evidently, a family history of postsecondary study tends to increase the likelihood of children's participation in PSE.

In comparison, first generation students are in a disadvantaged situation. Being the first to attend PSE in their families, they usually face a number of challenges, including low educational aspirations, lack of family support, inadequate knowledge about post-secondary study and financial resources (Engle, 2007). Previous studies show that first generation students are less likely to receive encouragement and support from their parents to pursue PSE (Engle, 2007; Kirby, 2009; Shaienks & Gluszynski, 2007). Also, the findings from Somers, Woodhouse and Cofer's (2004) study suggest that first generation students are more sensitive to financial aid and more averse to student loans than their counterparts. Moreover, parents of first generation students may lack knowledge about the college application process and be more likely to overestimate tuition fees and other costs related to PSE (Berger et al., 2007; CMSF, 2006; EHOS, 2009; Engle, 2007).

The impact of parental education on children's PSE, especially university education, participation is closely related to other factors, including motivation and information, family incomes, and home environment. As revealed in this part of the literature review,

level of parental education has great influence on children's educational aspirations, knowledge of PSE, and learning environment at home. Given the correlation of parental education and family incomes, level of parents' educational attainment largely determines the extent to which the parents provide financial support and make financial preparations for children's higher education. Moreover, due to the low level of educational attainment, parents cannot act as role models and demonstrate the value of higher education for their children. Therefore, level of parental education is an important factor to consider along with three main barriers to PSE.

### **3.1.5. Other factors**

The above mentioned four barriers to PSE are not the only ones identified in the literature. Challenges of pursuing higher education can result from a number of other factors, including distance from postsecondary institutions, language and cultural difference, ethnicity and immigrant status, school-related factors, home environment, gender, peer influence, personal factors, and local employment opportunities. Not all of these non-financial factors have been discussed in detail in the literature. However, their impacts on PSE participation cannot be ignored. A few of these factors will be briefly reviewed.

#### *Geographical barrier*

Distance from postsecondary institutions can impact pursuit of postsecondary studies, particularly university education. Young people from rural areas are more likely to choose non-university PSE over attending a university (Butlin, 1999; CSA et al., 2011; Frenette, 2002; Frenette, 2003; Rahman et al., 2005; Rounce, 2004). The proportion of PSE attendance is much lower for young people living in remote communities since distance from universities creates both financial and non-financial barriers (Frenette, 2002; Frenette, 2003; Rounce, 2004). On the one hand, living far away from postsecondary institutions means that students have to leave their families and communities to attend college or university in an unfamiliar environment, which would be a bigger challenge for those from a different cultural and linguistic background. On the other hand, students have to bear higher moving and transportation costs, which have a greater impact on students from lower and middle-income families. Frenette (2003) indicates that geographical barrier to PSE have the most pronounced negative impact on students from lower and middle-income families.

Compared to young people from upper income families, those from lower income families are less likely to go to universities when university institutions are beyond reasonable commuting distance (Frenette, 2003). Although geographical barriers prevent students from attending universities, the participation rates are generally high in local colleges (CSA et al, 2011; Frenette, 2004). In his follow-up study, Frenette (2007) finds that creating a new university has a significant impact on university participation rates of local students. Those from lower-income families benefit most from the establishment of a new university (Frenette, 2007). However, Frenette (2007) also finds that "the increase in university participation came at the expense of college participation" among local youth (p.27). Apparently, the removal of geographical barrier increases the affordability of students from

lower-income families and helps them choose university over college when there is a university nearby. The findings of Frenette (2007) indicates that the creation of a new university is less likely to contribute to the increase in the overall PSE participation among local youth, but more likely to encourage university participation. Additionally, the study conducted by CSA, OSTA-AECO & OUSA (2011) indicates that students living in rural areas also have less access to information and tend to be first-generation students. Therefore, distance from postsecondary institutions is not the sole barrier to higher education faced by people who live in rural or remote communities.

#### *Home environment*

Some studies show that home environment and family structure affect children's educational attainment (Demmert, 2001; Finnie et al, 2004; Tomkowicz & Bushnik, 2003). Learning abilities can be at risk for children who are deprived of adequate living conditions, good health, and a safe environment (Satchwell, 2004). Also, studies have found that compared with young people from two-parent families, those from single-parent families are more likely to face difficulties in postsecondary and university participation and show higher rates of high school dropouts (Bushnik, Barr-Telford, & Bussiere, 2004; Finnie et al., 2004; Rahman et al, 2005; Tomkowicz & Bushnik, 2003). However, the impact of the home environment, single-parent families, and the number of siblings can be associated with economic status of those families. Further research is needed to fully understand the association between these factors and PSE participation of young people from those families.

#### *Linguistic and cultural barriers*

Speaking a first language other than English or coming from a different cultural background can be a factor affecting access to PSE (Educational Policy Institute, 2008; Looker and Thiessen, 2004). Some studies have found that Anglophone youth have higher educational aspirations than Francophone youth both in and outside of Quebec, and argues that the difference is because of the impact of language and culture (Looker & Thiessen, 2004; King, Warren, King, Brook & Kocher, 2009). A study conducted in the United States shows that among young people whose first language was not English, the high school dropout rate was significantly higher for those who were not fluent in English than those who spoke English well (Schargel & Smink, 2001). King et al (2009) also indicated that speaking a non-official language at home had a different impact on different ethnic groups. In general, youth speaking Chinese or Korean at home show higher PSE participation rate than those speaking Spanish and Portuguese (TD Economics, 2010). The impact of linguistic and cultural barriers is also evident in the case of Aboriginal people's low PSE participation rates. This will be discussed in greater detail later.

#### *Ethnicity and immigrant status*

The impact of ethnicity and immigrant status has also received a lot of attention in the research on postsecondary attendance. Some studies have found that students with an immigrant background were more likely to participate in university and less likely to attend a college or trade schools than native-born students (Butlin, 1999; Junor & Usher, 2004; McCall, 2007). Compared to Canadian-born non-visible minority youth, a higher

proportion of visible-minority immigrant youth held aspirations of going to university and obtained university degrees (Abada, Hou & Ram, 2008; Taylor & Krahn, 2005). Moreover, the second generation of visible minority immigrants has been well-known for its outstanding educational achievements. Overall, compared to non-visible minority Canadians, the second generation of visible minority immigrants show higher proportions of high school completion and university attendance (Abada et al., 2008; Boyd, 2002). Studies have noted that the motivation of visible minority immigrant parents plays an indispensable role in establishing the high aspirations of their children (Boyd, 2002; Finnie & Muller, 2008; Taylor & Krahn, 2005). Moreover, as opposed to non-visible minority Canadians, the aspirations of visible minority immigrant students are less likely to be affected by parental education and family incomes (Taylor & Krahn, 2005). However, a significant difference in educational attainments exists between ethnic groups. Children of immigrants from China and Indian have outperformed those from other ethnic groups, whereas those from Africa and Caribbean countries are more likely to drop out of high school and have lower educational attainments (Abada et al., 2008; Boyd, 2002; Kao & Thompson, 2003). The gap in academic achievements between ethnic groups can be attributed to cultural differences, parental education, and parents' expectations (Finnie & Muller, 2008; Taylor & Krahn, 2005). Given educational attainment differences between ethnic groups, it is more important to explore barriers to PSE faced by each visible minority immigrant group.

### *Gender*

Gender differences have been one of the focuses in research on young people's educational attainment. While many studies have focused on the difference in participation and performance of males and females in science and mathematics, some research has paid attention to gender differences in the pursuit of PSE in general. Studies have noted that young men are less likely to pursue PSE than young women (Barr-Telford et al., 2003; Zeman, 2007). The latest census data show that young women have surpassed young men in PSE attendance (Statistics Canada, 2008b). The higher educational attainment of young women can be attributed to their superior high school performance and higher educational aspirations (Looker & Thiessen, 2004; Manitoba, 2000). According to the *Youth in Transit Survey*, male students show greater high school dropout rates than female students (Zeman, 2007). Looker and Thiessen (2004) found that over one third of male participants in the study had an educational aspiration of no more than high school completion, whereas more than 40 percent of female participants hope to obtain a couple of university degrees. While gender is a notable factor in PSE participation, it is important to investigate other factors in depth, particularly those leading to different educational attainments of members from the same gender group.

### *School-related factors*

There exists a pool of research that shows school-related factors have an impact on a student's academic performance and educational aspirations (Davis, Anderson, & Jamal, 2001; Looker, 2002; Looker & Thiessen, 2004; Satchwell, 2004). These factors include student-teacher relationships, teacher's expectations, turnover rates of teaching staff, academic self-confidence, attachment to school, participation in extracurricular activities,

school environment, and involvement of parents and communities (David et al., 2001; Satchwell, 2004). Looker (2002) claims that school-related factors have a greater impact on students' decision to pursue further education than other factors. When students attend schools lacking social, linguistic, and intellectual resources and ones that have high turnover rates of teaching staff, they are less likely to obtain academic success and encounter the risk of leaving school early (Davis et al., 2001; Mueller, 2001). Also, when students have an adverse relationship with their teachers, they are less likely to perform well in school and more likely to drop out of school (Bushnik, 2003; Satchwell, 2004). The impact of school-related factors on students' academic performance is greater in rural and remote areas where schools tend to have high turnover rates of teachers and lack resources (Davis et al., 2001). Again, the school-related factors cannot be isolated from other factors, including local economy, available employment opportunities, and community involvement.

### **3.1.6 Summary**

As can be seen from a brief review of the above mentioned factors, PSE participation of young people can be affected by a variety of factors. Students can withdraw from high school or even primary school because of some of these barriers. Apart from these factors, there are many others, including peer influence, teen pregnancy, youth crime, disability, frequent changes in residence, drug and alcohol use, local employment opportunities, that can influence young people's academic performance (Satchwell, 2004). To a large extent, most of these factors can be associated with academic barriers, financial barriers, and motivation and information barriers. For instance, school-related factors can lead to students' unfavourable academic performance, which creates academic barriers to PSE. Also, ethnicity and immigrant status are closely connected with educational aspirations of immigrant offspring. Therefore, although these factors are not predominant barriers to higher education, they play a role in affecting a student's academic success in primary and secondary schools. Their influence on a student's schooling cannot be overlooked in tackling the challenges of PSE attendance.

While each barrier reviewed in this section can impact the likelihood of youth pursuing postsecondary education, it is clear that none of those factors can fully explain who goes on and who does not. It is more likely the interaction of multiple barriers that prevents many potential PSE students from pursuing higher studies. The overlap and interaction of barriers indicate these barriers cannot be isolated from one another (CCL, 2009b; Berger & Motte, 2007). For example, parental education is closely related to family support, financial resources, available information, motivation, and a desirable home environment. Although each disadvantaged group presents a predominant factor that leads to the under-representation of its members in PSE, the predominant factor is less likely to be the only barrier to higher education faced by the group members. Therefore, young people that are first generation students probably face financial challenges or geographical barriers simultaneously. To a large extent, the under-representation of each disadvantaged group in higher education is a result of the complex interaction of multiple barriers. Increasing the access of members of disadvantaged groups to PSE requires a comprehensive and thorough

understanding of not only the leading disadvantages they face but also all of the factors that contribute to those disadvantages.

Among all disadvantaged groups, the joint impact of multiple barriers to PSE on Aboriginal youth is especially noteworthy. First of all, Aboriginal students face challenges of differences in cultural background and languages spoken. The traditional learning style of Aboriginal peoples is different from the western schooling system implemented in public schools across the country (de Plevitz, 2007; Doyle & Hill, 2008; Patten & Ryan, 2001). Secondly, due to the overall low educational attainment of the Aboriginal population (Statistics Canada, 2008a), a great proportion of Aboriginal youth are first generation students. Also, many Aboriginal peoples live in rural or remote communities, which create geographical barriers to access to PSE. In addition, family incomes and available financial resources are factors that cannot be overlooked in discussing PSE participation of Aboriginal peoples. Moreover, due to the experience of attending residential schools, Aboriginal peoples are subjected to the influence of historical factors that are not shared by any of the other disadvantaged groups. It is necessary to explore these barriers in depth by examining literature on the PSE attendance of Aboriginal peoples in Canada and other jurisdictions.

### **3.2. Aboriginal Students and Accessibility of Postsecondary Study**

It is a noticeable phenomenon among countries with Aboriginal populations that compared to their non-Aboriginal counterparts. Aboriginal peoples have disadvantages in accessing social and economic resources. As mentioned at the beginning of this section, the UNDP's HDIs show that Aboriginal populations in Canada, Australia, New Zealand, and the United States lag behind their non-Aboriginal counterparts in terms of social-economic and health conditions (Cooke et al., 2007; Malatest & Associates, 2002). Among the above four countries, New Zealand has the highest proportion of Aboriginal peoples in the total population at 14.6 percent in 2006 (Statistics New Zealand, 2011, Para.1). Nevertheless, New Zealand has performed much better in improving PSE participation of Aboriginal peoples than other countries (Cooke et al, 2007). The index shows that the educational gap between Aboriginal and non-Aboriginal peoples is the smallest in the United States and still quite large in both Australia and Canada (Cooke et al., 2011). Moreover, the gap in educational attainment has widened between Aboriginal and Torres Strait Islander Australians and non-Aboriginal Australians in the last decade (Cooke et al., 2011; SCRGSP, 2009; Wright, 2005). In Australia, the proportion of Aboriginal and Torres Strait Islander people with no PSE degrees is 20 percent higher than that of non-Aboriginal Australians (Doyle & Hill, 2008, p.53). Aboriginal Australians also face a series of barriers to higher education. Therefore, this section aims to focus on findings of Canadian and Australian studies on factors contributing to the low PSE participation rates of Aboriginal peoples.

In both countries, a great number of studies have focused on the educational disadvantages of Aboriginal peoples and a series of factors have been identified as obstacles influencing Aboriginal students' decision to pursue higher education. Most Australian studies have

identified a variety of social, economic, home environment, and school related obstacles (Alford & James, 2007; Craven, Parente & Marsh, 2003; Craven, Tucker, Munns, Hinkley, Marsh & Simpson, 2005; Doyle & Hill, 2008; Powell, Lawley & Raciti, 2006; Preston, 2008a). Similar barriers have been identified by Canadian scholars. Given the similar historical, social, and cultural backgrounds and the commonwealth status of both nations, a synthesis of barriers to PSE faced by Aboriginal peoples in these two countries would provide a more comprehensive understanding of the challenges involved with closing the PSE participation gap between Aboriginal and non-Aboriginal peoples.

As discussed earlier, Aboriginal students are disadvantaged in multiple ways and encounter complex barriers to postsecondary study (ACCC & HRSDC, 2008; McCall, 2007; OUSA, 2010). A great number of them are either first-generation students or come from low-income families, and may live in rural and remote communities. It is also more likely that many Aboriginal students face more than one of these barriers. Multiple disadvantages imply a more severe impact on access to higher education. As a result, none of the barriers to PSE faced by disadvantaged groups can be overlooked in discussing challenges of going on to postsecondary studies faced by Aboriginal students. While Aboriginal students share many characteristics with other disadvantaged groups, they are unique because of their historical, language, and cultural background. To some extent, Aboriginal students are also under the influence of obstacles created by various social and health issues in their families or communities. Also, the various disadvantages can exert an impact on the academic performance of Aboriginal students at an early age, such as in elementary and secondary school, which would result in inadequate academic preparedness for continuing their studies beyond high school (OUSA, 2010). Therefore, this section aims to describe the main barriers to PSE faced by Aboriginal students from all of the angles mentioned above.

### **3.2.1 Historical and cultural influence on Aboriginal schooling**

Aboriginal culture and a history of removing Aboriginal children from their parents exert influence not only on the PSE attendance of Aboriginal students but also their schooling in general (ACCC & HRSDC, 2008; Bougie & Senecal, 2010; de Plevitz, 2007; Kirkness, 1999; Malatest & Associates, 2002; Malatest & Associates, 2004; Preston, 2008a; Satchwell, 2004). Aboriginal Canadians and Australians have borne this historical influence through the legacy of residential schools and “the stolen generations”<sup>2</sup> respectively (Kirkness, 1999; Malatest & Associates, 2002; Reconciliation Network, 2007). Also, Aboriginal peoples have their own distinctive cultures and a great number of Aboriginal peoples most often speak an Aboriginal language at home (Statistics Canada, 2006c). The differences in their languages and cultures from that of the mainstream ones indicates that Aboriginal students have to master an official language and the necessary learning skills for achieving academic success in a different cultural setting. Therefore, the historical, language and cultural impacts are the foremost factors included in the discussion of barriers to PSE faced by Aboriginal students.

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<sup>2</sup> The Stolen Generations refers to “Australian Aboriginal and Torres Strait Islander (Indigenous) children who were moved from their families by Australian governments, churches and welfare bodies from 1909 to 1969.” (Reconciliation Network, 2007, para.1&2).

### *Historical barriers*

The history of removing Aboriginal children from their parents is one of the important factors contributing to the low educational attainment of Aboriginal peoples. Aboriginal Australians have experienced a history of “the stolen generations,” which was one of results of “the White Australia and assimilation policies” (Reconciliation Network, 2007, para.3). There is no record on the number of Aboriginal children taken in Australia. However, according to the Australian Bureau of Statistics, in 1994, approximately 10.3 percent of Aboriginal adults aged 25 and older belonged to “the stolen generations” (Australian Bureau of Statistics, 1997). The history of “the stolen generations” leaves Aboriginal Australians a legacy of emotional instability, low self-esteem, poor health, substance abuse, domestic violence and poor parenting skills (de Plevitz, 2007).

In Canada, residential schools were established to “integrate or assimilate Aboriginal peoples into mainstream Canadian society” (Aikenhead, 2001; Centre for Social Justice, 2010, para.1; Satchwell, 2004, p.17; Wotherspoon, 2002). The children, who were forced to leave their home and communities, suffered frequent abuse in residential schools which not only affected their individual lives, but subsequently, their family and community relationships in future (Stout & Kipling, 2003, Malatest & Associates, 2002; The Aboriginal Institutes’ Consortium, 2005; Wotherspoon, 2002). Although First Nations, Métis and Inuit children had attended residential schools at different periods of time, the experiences left had similar effects, which include “family violence, drug, alcohol and substance abuse, physical and sexual abuse, loss of parenting skills, and self-destructive behavior” (ACCC, 2010; Stout & Kipling, 2003, p.i). In addition, rules of residential schools forbade use of Aboriginal languages and cultural practices, which led to a loss of Aboriginal culture, languages and traditions, and a distrust of many Aboriginal communities towards educational institutions in general (ACCC, 2010; ACCC & HRSDC, 2008; Faries, 2010; ITK Socio-Economic Department, 2005; Malatest & Associates, 2004; Orr, 2008).

Therefore, the legacy of residential schools and “the stolen generations” is likely to affect parental support for their children’s education and create a negative learning environment for Aboriginal children. Studies have found that the children of Aboriginal peoples who attended residential schools had lower success with school themselves (Bougie, 2009; Bougie & Senecal, 2010; Stout & Kipling, 2003). The experiences of residential schooling have undermined the value of schooling in the mind of Aboriginal peoples (Barnes, 2006). As a result, the intergenerational impact on educational motivation of Aboriginal peoples and the legacy of residential schools have become a major barrier to PSE.

### *Language and cultural differences*

Compared to non-Aboriginal students, many Aboriginal students have to overcome the challenges brought on by lack of official language proficiency and the impact of Aboriginal culture. Aboriginal peoples have a distinct culture and many of them speak an Aboriginal language. Due to the differences of Aboriginal languages and culture from the mainstream ones, a great number of Aboriginal peoples, especially those living in remote and isolated areas, have to overcome the language and cultural obstacles to pursue a higher education.

As mentioned earlier, speaking a first language other than English or French has been identified as one of the factors affecting access to PSE participation in Canada (Educational Policy Institute, 2008, p.7; Looker & Thiessen, 2004, p.6). In 2001, the proportion of Aboriginal and Torres Strait Islander Australians who spoke an Aboriginal language at home was approximately 12 percent and the number reaches 55 percent among those living in very remote areas (Trewin, 2003, p. 35). In Canada, the 2006 Census indicates that approximately 18 percent of Aboriginal people's mother tongues are Aboriginal languages and 11 percent of Aboriginal peoples predominantly speak Aboriginal languages at home (Statistics Canada, 2006c). Due to speaking Aboriginal language at home and in their communities, some Aboriginal children are rarely exposed to English or French environments and their lack of official-language proficiency inevitably has a great impact on their academic performance (Matthew, 2007; Satchwell, 2004, p.23). Also, the difference between the languages spoken at school and at home increases the challenges faced by Aboriginal students regarding learning and parental engagement in their children's education (Hurst & Sparrow, 2010, p.274). Therefore, as long as Aboriginal students who do not master the official languages of the countries of their residence, they are unlikely to meet the academic requirements for postsecondary studies.

In sum, both the history of the removal of Aboriginal children from their parents and the language and cultural differences can exert great influence on the education of Aboriginal youth at an early point in their schooling. Compared to the impact of language differences, the impact of the legacy of residential schooling and "the stolen generations" may require more effort to reduce. Apart from language difference, impacts of Aboriginal cultures on Aboriginal schooling are demonstrated in other aspects as well, including different learning styles, values, traditions. These will be discussed later.

### **3.2.2. Lack of academic preparedness**

Lack of academic preparedness for PSE has been considered a direct and significant barrier to PSE for many Aboriginal peoples (ACCC, 2010; CCL, 2009b; CMEC, 2010; Educational Policy Institute, 2008; Hardes, 2006; Kirkness, 1995; Malatest & Associates, 2002; Malatest & Associates, 2004; Malatest & Associates, 2007; Preston, 2008a). It includes poor academic performance, lack of skills and learning abilities, lower literacy levels, and high school dropouts. In addition, compared to non-Aboriginal students, Aboriginal ones encounter social and economic as well as cultural barriers to education at an earlier age. Usually, a large and stable academic performance gap between non-Aboriginal and Aboriginal students has already formed by the time they begin secondary school (Donders, 2008; OUSA, 2010; Richards & Scott, 2009). Due to these factors, many Aboriginal students either are unable to finish secondary school, fail to qualify for postsecondary study application or have insufficient skills to meet the demands of postsecondary studies.

Compared to non-Aboriginal peoples, Aboriginal peoples are far less likely to complete high school. One of the significant characteristics of Australian and Canadian education

outcomes is the high proportion of Aboriginal peoples who drop out from primary or secondary school. The high school dropout rates of Aboriginal students play a key role in the PSE participation gaps between Aboriginal and non-Aboriginal students (ACCC & HRSDC, 2008; CCL, 2008; CSA et al., 2011). The 2006 Census shows that in 2005, approximately 44 percent of the Aboriginal population 15 years of age and over did not complete high school, compared to 23 percent of other Canadians (Statistics Canada, 2006b). In 2006, the proportion of Aboriginal Australians at 19 years old who had completed year 12 or equivalent was 35.7 percent, which is less than half that of their non-Aboriginal counterparts (73.5 percent) (SCRGSP, 2009, p.4.50). In addition to dropping out of school, many Aboriginal students fail to attend school on a regular base. Compared with non-Aboriginal Australian students, Aboriginal ones have a significantly lower retention rate and a noticeably higher suspension rate (Bourke et al, 2000). Studies also conclude that completing secondary school is highly associated with the likelihood of students going on to additional education (SCRGSP, 2009; Victorian Government, 2008). Also, Aboriginal students are much less likely to attend school regularly than non-Aboriginal students (Bourke, Rigby & Burden, 2000; New South Wales Aboriginal Education Consultative Group, 2004). Given the impact of absenteeism on learning, students with a high rate of absenteeism are less likely to obtain educational success. The irregular attendance in school of Aboriginal students is directly correlated with their insufficient school skills (especially those required for reading) (Groome & Hamilton, 1995). As a result, poor primary and secondary school outcomes are the first obstacles faced by Aboriginal peoples to participation in higher education.

On the other hand, Aboriginal students who do complete high school often have weak skills. Most postsecondary programs select students on the basis of their high school grades (Kvale, 2007; Preston, 2008a). Meeting entry requirements of postsecondary programs means that Aboriginal students must demonstrate high levels of literacy and numeracy skills along with other fundamental skills required for further education. The low levels of literacy and numeracy skills of Aboriginal students affect their likelihood of being able to pursue higher education. Among high school graduates, Aboriginal students are over 30 percent less likely to be qualified for postsecondary study than non-Aboriginal ones (Commonwealth of Australia, 2002, p.xix). Holmes (2005) indicates that many Aboriginal high school graduates have to take more courses or receive additional trainings to improve their qualifications in order to meet the admission requirements of postsecondary institutions. Studies have found that Aboriginal students' performance in literacy and numeracy is significantly lower than that of non-Aboriginal students (Craven, 2003; Doyle & Hill, 2008; Huge Watson Consulting, 2003). Since numeracy and literacy are indispensable skills for obtaining academic success and undertaking postsecondary studies (SCRGSP, 2009), fewer Aboriginal students are likely to qualify for entry to university than their non-Aboriginal counterparts.

Studies also find that primary and secondary schools on reserves and in remote regions are incapable of providing sound education to students and helping them to be well-prepared for postsecondary studies (ACCC & HRSDC, 2008; Malatest & Associates, 2004). Aboriginal students on reserves are found to lag far behind their counterparts that attend

off-reserve schools (IAHLA & UVic OIA, 2009). As a result, they must have their learning skills strengthened and enhanced in order to be qualified for postsecondary studies (IAHLA & UVic OIA, 2009; Malatest & Associates, 2002). Thus, the requirement of good high school grades for PSE admission puts those Aboriginal students with poor academic performance at a disadvantage.

Successfully completing secondary school and obtaining a secondary school diploma or equivalent is an essential prerequisite for entering postsecondary study (BowValley College, 2010; NCC Secondary School, 2010). Given the significantly high proportion of Aboriginal students without high school diplomas, it is imperative to tackle the challenges of increasing high school completion rates in order to close the educational gaps between Aboriginal and non-Aboriginal peoples. Also, lack of competent skills is another concern with regards to academic preparedness of Aboriginal students for further education. Improving students' competency for higher education would involve school-related factors, which will be discussed later. Evidently, lack of academic preparedness plays a vital role in the low PSE participation rates of Aboriginal students. Furthermore, the admission policies of postsecondary institutions overlook the life experiences of Aboriginal peoples and solely emphasize the importance of "a grade-point average" (Preston, 2008a, p.3). Therefore, Aboriginal students face more complex barriers to PSE than other students.

### **3.2.3. Available financial assistance**

Much like many non-Aboriginal students, Aboriginal students encounter the obstacle of inadequate financial resources to fund their own education. A great number of studies have found that the affordability of PSE has been a significant factor impeding Aboriginal youth from pursuing higher education (ACCC & HRSDC, 2008; Berger et al., 2007; CMSF, 2005; EHOS, 2009; Helin & Snow, 2010; Holmes, 2005; Mayes, 2007; McCall, 2007; Preston, 2008a). According to the 2006 Aboriginal peoples Survey, the top three sources of funding identified by Aboriginal respondents were loans, parental support, and personal savings from working (ACCC, 2010). Compared to non-Aboriginal students, Aboriginal ones bear more severe financial burden because of relocation expenses and childcare (Holmes, 2006; Preston, 2008a). Generally speaking, their challenges associated with PSE affordability are mainly due to low household incomes and insufficient financial assistance.

Low household income implies that families may have difficulties paying for school fees and covering other school-related expenses for their children. The socio-economic status of the Aboriginal population is substantially lower than that of the non-Aboriginal population (Barsh, 1994; Doyle & Hill, 2008; Helin & Snow, 2010; Malatest & Associates, 2004; Mendelson, 2006). Compared to other Canadians, Aboriginal peoples experience higher unemployment rates and have lower family income (Statistics Canada, 2008a; Wotherspoon, 2002). In 2005, the median household income of the Aboriginal population was about 81 percent of that of the general population (Statistics Canada, 2007a; Statistics Canada, 2007b). The income disparity between Aboriginal and Torres Strait Islander people and other Australians is significantly large as well (Australian Bureau of Statistics, 2010a). In 2001, Aboriginal Australians represented 72 percent of population that belonged

to the lowest or the second lowest income groups of the Australian population (Doyle & Hill, 2008, p.34). In 2006, the gross incomes of Aboriginal and Torres Strait Islander households were approximately 65 percent of those for other Australians (ABS, 2010a, para.1; SCRGSP, 2009, p.4.107).

Given that people with low socio-economic status are less likely to provide financial support for a child's PSE, Aboriginal students have to rely on their employment income savings or obtain adequate funds from financial aid programs. The results of *The Class of 2003: High School Follow-Up Survey* and the *College End of Term Survey 2005* indicate that compared to non-Aboriginal students, Aboriginal ones are less likely to primarily rely on family financial support (ACCC & HRSDC, 2008; Malatest & Associates, 2007). In Canada, approximately 18 percent of Aboriginal students count on band funding or other financial assistance programs for paying their PSE costs (Malatest & Associates, 2007, p.36). As a result of limited financial support from their families, Aboriginal students have been found to be one of the student groups most vulnerable to income support reductions and PSE tuition fee increases, which adversely impact the affordability of higher education (NIPAAAC, 2010). The financial constraints of Aboriginal families have forced many Aboriginal students to rely on money from personal savings, loans, and other forms of financial assistance to pay for their PSE costs.

Unfortunately, the financial assistance available to Aboriginal students is limited. According to *the Pan-Canadian Survey of College Students*, government sponsored students loans were the predominant source of financial support for both Aboriginal and non-Aboriginal students and represented the same proportion in source of funding for both groups (ACCC & HRSDC, 2008). Considering that a number of financial assistance programs were designed for the purpose of supporting higher education of Aboriginal students, the heavy reliance of Aboriginal students on loans indicates that quite a few issues exist with these programs (ACCC & HRSDC, 2008).

In Canada, the largest federal support program—the Postsecondary Student Support Program (PSSSP)—has been criticized for lack of accountability and transparency regarding funding distribution (Holmes, 2005; Helin & Snow, 2010; Malatest & Associates, 2004; Orr, 2008). The program aims to provide financial assistance for covering PSE-related expenses in the areas of “tuition fees, the cost of books and supplies required for courses, travel and living expenses for full-time students” (INAC, 2010a, para.5). However, due to lack of a national funding formula, a substantial regional variation exists in the distribution of student funding (Helin & Snow, 2010; Usher, 2009). Also, the surplus of these funds has been misused by Indian bands due to non-existent accountability mechanism (Helin & Snow, 2010). As a result of the problems related to favoritism, Aboriginal students living off-reserve rarely receive PSSSP funding because they fail to build a good relationship with on-reserve chiefs and council members (Helin & Snow, 2010; Holmes, 2006). In addition, researchers have found that the limited resources of the program fail to meet the needs of all interested eligible Aboriginal students (ACCC, 2010; AFN, 2010; Helin & Snow, 2010; Malatest & Associates, 2004; Preston, 2008a; Usher, 2009). The eligible students are forced to wait for funding available. The Assembly of First Nations estimates that approximately 8,475

Aboriginal students did not receive funding for PSE in 2000-2001 (Hill, 2005, p.16; Malatest & Associates, 2004). Due to the insufficient funding under the PSSSP, a great number of Aboriginal students were unable to take advantage of postsecondary opportunities (Helin & Snow, 2010; Mayes, 2007).

In addition, the number of Aboriginal students who are eligible for the funding is limited. Non-status Indians and Inuit are denied access to student funding from the federal government (ACCC, 2010; Malatest & Associates, 2008; Usher, 2009). The PSSSP has certain requirements on PSE programs that exclude applicants who want to attend short-term programs, i.e. one-year programs and trade training (ACCC, 2010; Malatest & Associates, 2004). Moreover, the PSSSP funding alone does not meet the needs for covering PSE cost (ACCC, 2010; Malatest & Associates 2004). But Aboriginal students cannot apply for student loans if they accept the PSSSP funding (Malatest & Associates, 2004). As for those who are not eligible or not able to receive funding from the PSSSP, they have to turn to the Canadian Student Loans Program and associated provincial student financial assistance supports i.e. loans or grants. Similar to their non-Aboriginal counterparts, Aboriginal students were quite concerned about debt accumulation and their ability to repay their debt (ACCC & HRSDC, 2008). In addition, compared to other Canadians, a higher number of Aboriginal peoples live in rural or remote areas and some Aboriginal students have young children (Helin & Snow, 2010; Malatest & Associates, 2004). Considering the higher travel and living expenses associated with relocation and childcare costs, both student loans and PSSSP funds are unlikely to be adequate enough to cover PSE costs of Aboriginal students. As a result, potential Aboriginal students of PSE face more critical challenges regarding paying for higher education than their non-Aboriginal counterparts.

### **3.2.4. Living in rural or remote regions**

With regards to Aboriginal peoples living in rural areas or remote areas, the pursuit of postsecondary studies means additional expenses and financial burdens as well as leaving the social support of family and community behind. Compared to non-Aboriginal peoples, a greater proportion of Aboriginal peoples live in rural or remote areas (ACCC, 2010; Australian Bureau of Statistics, 2003; Holmes, 2005; Luffman & Sussman, 2007; Preston, 2008a). In 2006, approximately 19 percent of Aboriginal peoples lived in rural areas (Statistics Canada, 2006a). A recent study has found that among young people undertaking postsecondary studies, 60 percent of Aboriginal students have to relocate to attend their institution while only half of non-Aboriginal ones need to move for PSE (Malatest & Associates, 2007, p.35). Relocation implies an increased cost for PSE participation and travel costs are not covered by many student financial assistance programs (Holmes, 2005; Orr, 2008). Additionally, some studies indicate that Aboriginal students tend to have strong connections with their families and communities and are more likely to have family and community responsibilities (Holmes, 2005; Malatest & Associates, 2004).

Although online education or distance education has been an increasing used pathway of higher education, its role in promoting PSE attendance of Aboriginal peoples residing in

the isolated communities is affected by a series of challenges that involve in a broad range of factors, including financial and technical supports, human resources, infrastructure, technical equipment, and computer skills of students (Greenall & Loizides, 2001; Gruber & Coldevin, 1995; McMullen & Rohrbach, 2003; Sisco, 2010). As for those who have limited access to receive PSE through distance education, relocation is still an issue that they have to face in terms of realizing their educational aspirations (Tait, 1999). Therefore, the family and community responsibilities can keep Aboriginal students from going on to higher education as well.

However, the removal of geographical barriers does not help to increase the university participation of Aboriginal peoples. Although young people, especially those from lower-income families, tend to show a higher rate of university attendance when a university is available nearby, Aboriginal peoples are the exception to this finding (Frenette, 2004; Frenette 2007). The rate of Aboriginal participation in university only has a minor change when a new university is established locally (Frenette, 2007). Moreover, the increase of university participation of Aboriginal students is more likely from students transferring from local colleges when the university is available nearby (Frenette, 2007). It is evident that the establishment of a new university locally serve as another option of postsecondary study for Aboriginal students who hold high educational aspirations, but less likely to motivate other Aboriginal students to attend university.

Similarly, Australian scholars have also conducted rich studies on the well-being of Aboriginal peoples living in remote regions and how the limited access to mainstream social services, including education, health care, housing, and employment, impacts educational attainment of Aboriginal residents (Australian Bureau of Statistics, 2010b; Bourke et al., 2000; SCRGSP, 2009). Due to the limited access to mainstream social services, Aboriginal Australians have great disadvantages regarding health, housing, education, and employment. Not only is the household income gap between Aboriginal and non-Aboriginal Australians living in the remote areas the greatest, but those disadvantages have a severe impact on Aboriginal children's educational and intellectual development and their educational aspirations (SCRGSP, 2009). In more isolated and traditionally oriented communities, Aboriginal students show significantly higher rates of absenteeism in school (Bourke et al, 2000). Moreover, Doyle and Hill (2008) have found that limited access to the education system has had a cross-generational impact, which has led Aboriginal parents and families to hold a negative view of educational systems. This, in turn, has had an effect on their engagement with their children's schooling. Therefore, Aboriginal peoples living in the remote areas face more obstacles than the increased cost of attending university imposed by distance.

To some extent, geographical barriers to PSE facing Aboriginal students living in rural or remote regions exert an impact on their PSE attendance. However, distance is not a sole factor in preventing Aboriginal students from undertaking further education. With regard to barriers to PSE, particularly university, participation of young people from rural or remote communities, factors, such as family background, community characteristics, and available resources, also need to be taken into consideration. Further research is needed to develop a

better understanding of the impact that distance to postsecondary institutions, particularly universities, has on the educational attainment of Aboriginal peoples.

### **3.2.5. Being first generation students**

A significant number of Aboriginal students are first generation students. It is known that Aboriginal peoples have significantly lower educational attainment than non-Aboriginal peoples (statistics Canada, 2006b). Given the correlation of parental education, family incomes, and parental education on children's educational aspirations and knowledge of PSE, Aboriginal youth are disadvantaged in pursuing PSE due to both the financial and non-financial obstacles created by their parents' low levels of education. According to the 2006 Census, the rate of Aboriginal peoples with a university degree is 15 percent lower than that of non-Aboriginal peoples (Statistics Canada, 2006b). A recent survey shows that Aboriginal students are approximately 25 percent more likely to pursue higher education when their parents have PSE experience (Malatest & Associates, 2007, p.37). A recent study also indicated that the level of parental education, particularly the mother's, has a great impact on the PSE attendance of a child (AFN, 2010; Donders, 2008). Furthermore, the 2006 Census shows that only 11 percent of the Aboriginal population 25 years and over have received PSE and the rate of those without a high school diploma is as high as 37 percent (Statistics Canada, 2006b). Therefore, due to lack of PSE experience, Aboriginal parents are less likely to understand the benefits of higher education, be aware of the academic requirements of postsecondary study, and provide information on financial support for PSE to their children. As other first generation students, absence of role models who have PSE experience contributes to low educational aspirations, confidence, and motivation of Aboriginal students in pursuing postsecondary studies (Berger et al., 2007; Orr, 2008; Satchwell, 2004). Moreover, due to the limited number of Aboriginal instructors and counselors in the school, the first generation Aboriginal students are less likely to find role models and obtain help for career counseling and postsecondary transition (Preston, 2008a). Thus, being first generation students, Aboriginal youth must overcome the obstacles associated with the low educational levels of their parents.

### **3.2.6. Educational aspiration and information**

There is emphasis on the great impact of educational aspirations upon the academic achievement of Aboriginal students. Educational aspirations of Aboriginal students are positively related to their participation in the higher education (Powell et al., 2006). Compared with non-Aboriginal students, Aboriginal students show lower aspiration in regards to schooling (Alford & James, 2007; Craven, Parente & Marsh, 2003; Craven, Tucker, Munns, Hinkley, Marsh & Simpson, 2005). While non-Aboriginal students tend to aspire to go to university, significantly more Aboriginal students expect to go to technical and other vocational institutes (Craven et al., 2005). Research also finds that Aboriginal students' educational aspirations are under the influence of many factors, including available financial resources for higher education, family support, home and community environment, peer influences, available PSE or career information, school experiences (Craven et al., 2003; Craven et al., 2005; Parente, Craven, Munns & Marder, 2003).

Therefore, it is evident that the interaction of multiple factors affects Aboriginal students' aspirations, which in turn impact their participation in higher education

Compared to non-Aboriginal students, Aboriginal high school students are more likely to use informal channels to obtain information related to PSE. Recent studies indicate that Aboriginal students commonly learn about student financial assistance (SFA) programs through friends or family members, while some Aboriginal students obtain related information from teachers or counselors (EHOS, 2009; Malatest & Associates & Stonechild, 2008). Such methods of obtaining information can lead to outdated or insufficient information on the specific requirements of applying for SFA because of the limited resources of information. Malatest et al (2008) found that Aboriginal students, particularly those living in remote regions, have to depend on informal channels to acquire information on financial assistance or postsecondary programs because of lack of access to necessary resources. In addition, lack of information on postsecondary programs and financial assistance programs are closely related to parents' PSE experiences. Due to the low rates of Aboriginal peoples with first hand postsecondary experience, Aboriginal youth are less likely to receive information from their parents regarding higher education and choices of financial support. The inadequate information can lead to overestimation of PSE costs, underestimation of PSE benefits, and loss of interest in continuing schooling.

### **3.2.7. School-related factors**

School-related factors, including “school environment, school curriculum, teaching approach, and parental, family and community engagement”, have a great impact on PSE participation of Aboriginal students (Doyle & Hill, 2008, p.37). Of all the school related factors, the European model of teaching has been recognized as a significant factor contributing to under-representation of Aboriginal students in higher education (de Plevitz, 2007; Doyle & Hill, 2008; Gorman, 1999; Henchey, 2005; Kirkness, 1995; Patten & Ryan, 2001; Preston, 2008b). Aboriginal peoples have a distinctive culture, strong values, and different learning approaches than those used in the mainstream. Established on the basis of a European educational model, the public school system is different from the traditional learning styles of Aboriginal peoples (ACCC & HRSDC, 2008; CCL, 2009c; de Plevitz, 2007; Faries, 2010; Gorman, 1999; Preston, 2008b). Teaching approaches, teacher attitudes, and school curricula that fail to be culturally inclusive can have a negative influence on student attendance as well as learning and attainment (Bourke et al., 2000; de Plevitz, 2007; Doyle & Hill, 2008; Henchey, 2005; Malatest & Associates, 2002; Matthew, 2007). Also, Standard English is the instruction language used in most Canadian and Australian public schools (de Plevitz, 2007). Thus the western model of teaching poses linguistic, cultural, and value barriers to school performance of Aboriginal students who may experience alienation as well as low self-esteem and confidence (ACCC, 2010; ACCC & HRSDC, 2008; Alford & James, 2007; de Plevitz, 2007; Gair, Thomson & Savagel, 2005; McConville, 2002).

Aboriginal students who feel culturally isolated or marginalized in school are less likely to pursue further education and more likely to continue the dropout tendency of Aboriginal

PSE participants (Berger et al., 2007; Kirkness, 1995; Malatest & Associates, 2004). Studies have stressed that Aboriginal students do best in an institution that incorporates Aboriginal history, culture, and knowledge into its curriculum (AUCC, 2011a; Royal Commission on Aboriginal peoples, 1996; Saskatchewan Ministry of Education, 2008). To a large extent, the low education outcomes of Aboriginal peoples are the result of being excluded from the mainstream education system, which is unable to meet the needs of Aboriginal youth for material, personal, and learning support (Doyle & Hill, 2008; Gair et al., 2005; Patten & Ryan, 2001; Preston, 2008b). As a result, the negative school experiences with western schools can affect an Aboriginal student's educational aspirations and school attendance, which would impede them from pursuing postsecondary studies.

While much of the literature states that the postsecondary system gives little recognition or respect to the cultural knowledge, tradition, values, different cognition and learning styles brought by Aboriginal students (ACCC & HRSDC, 2008; CMSF, 2005; Holmes, 2005; Malatest & Associates, 2004), there are Aboriginal postsecondary programs in some postsecondary institutions and the First Nations University of Canada (FNU) is a good example. However, lack of adequate funding is a common problem facing most Aboriginal postsecondary programs (ACCC, 2010; Matthew, 2007; Ontario Native Education Counseling Association, 2007; Preston, 2008b; Stonechild, 2006; The Aboriginal Institutes' Consortium, 2005). Compared to mainstream programs, Aboriginal postsecondary ones receive significantly less funding (Ontario Native Education Counseling Association, 2007). Being the only fully accredited Aboriginal postsecondary institution, FNU supports and incorporates Aboriginal cultures into its programs (FNU, 2010). However, the university is on the verge of losing federal and provincial funding because of "its long-standing, systemic problems related to governance and financial management of the institution" (INAC, 2010b, para.2). In February 2010, in light of these problems, both the Government of Canada and Saskatchewan declared the withdrawal of their financial support to FNU after the 2010-2011 fiscal year (INAC, 2010b). The funding cut would result in the loss of many Aboriginal students' opportunities of pursuing university studies in an environment that supports their cultures.

Overall, the western school system and the limited inclusion of Aboriginal cultures are prominent non-financial barriers faced by Aboriginal youth in attempting to realize their educational aspirations (CMSF, 2005; Holmes, 2005; Malatest & Associates, 2004; Richards, 2009; Saskatchewan Ministry of Education, 2008). Including Aboriginal knowledge within curriculum and reflecting Aboriginal culture in the mainstream educational institutions have been noted as indispensable measures for improving educational outcomes of Aboriginal peoples (Canada-Aboriginal Peoples Roundtable, 2004; Frenette, 2010). Additionally, a low level of parental engagement and support in Aboriginal children's education has long been identified as another significant factor leading to poor academic performance of Aboriginal students (NEP Team, 2000). To a large extent, impacts of the western school system and lack of parental involvement in Aboriginal children's education cannot be separated from the legacy of residential schooling experienced by the previous generations of Aboriginal peoples.

### 3.2.8. Other factors

While considering factors contributing to low educational attainment of Aboriginal peoples, both Canadian and Australian scholars have discussed impacts of a number of factors, including housing conditions of Aboriginal families, health and nutrition conditions of Aboriginal children, teenage pregnancy, having dependents, local employment opportunities, drug use, juvenile crimes, peer influences, and some personal factors as well. All of these factors can somehow affect Aboriginal youth's decisions or ability to continue schooling. Instead of having a direct impact on PSE participation of Aboriginal students, many of these factors are more likely to exert influence on the educational and intellectual development of Aboriginal students in the early stages of their life. The literature reviewed has laid great emphasis on housing and health conditions which have an impact on the schooling of Aboriginal students from the very beginning and, in turn, affect their school performance and their decision on whether to continue with their education or not. The learning problems that result from the above factors can "have far-reaching consequences" upon an Aboriginal student's education and other aspects of their lives (Department of the Prime Minister and Cabinet, 2009, para.2). Therefore, none of these factors should be overlooked in the discussion of barriers to PSE facing Aboriginal students.

Given overcrowded<sup>3</sup> housing conditions of Aboriginal peoples being a regular part of home environment, it is necessary to discuss the impact of this on the academic performance of Aboriginal children. Poor housing conditions or overcrowded housing conditions have been identified as an important factor affecting Aboriginal people's academic achievements (de Plevitz, 2007; Doyle & Hill, 2008; Gair, et al., 2003; Powell, Lawley & Raciti, 2006). In 2008, approximately 25 percent of Aboriginal Australian populations lived in overcrowded housing, compared to 3.5 percent of their non-Aboriginal counterparts (Australian Bureau of Statistics, 2010b, para.3). In Canada, the Inuit group is the one that endures "the worst overcrowding" across the country (NAHO, 2008, p.1). First Nations on-reserve face acute overcrowding as well. Approximately 36 percent of First Nations and 36 percent of Inuit live in overcrowded houses in comparison with 11 percent of Aboriginal populations in general (NCCAH, 2010, p.2). Overcrowding was found to be highest in very remote areas (65.1 percent) (Australian Bureau of Statistics, 2003; Australian Bureau of Statistics, 2010b; Australian Institute of Health and Welfare, 2005; de Plevitz, 2007). Aboriginal homelessness rates are more than three times those of their non-Aboriginal counterparts (Doyle & Hill, 2008). Not only does overcrowding provide poor home-learning environment for children, but also has negative effects on family relationships and children's health and safety (Department of the Prime Minister and Cabinet, 2009) This, in turn, deteriorates the home environment, impairs the physical and mental health of Aboriginal children, and creates obstacles to their academic success.

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<sup>3</sup> Overcrowding is when a household does not have enough bedrooms considered appropriate for the number of residents, i.e. "household with more than one person per room. Households with more than 1.5 persons per room are considered severely overcrowded" (California Department of Housing and Community Development, 2010, para.1).

Apart from the influence of poor housing conditions, poor health and nutrition also impacts the ability of Aboriginal students to attend school regularly and perform well in their studies and other school activities (Barsh, 1994; SCRGSP, 2009; Doyle & Hill, 2008). Aboriginal children's mental wellbeing is found to be closely related to the emotional and physical wellbeing of their parents (BMA, 2006). A recent study found that in 2000-2001 approximately one quarter of Aboriginal children under the age of 18 years live in "households that had experienced 7-14 major stressful life events in the last 12 months" (Zubrick, Lawrence, Silburn, Blair, Milroy, Wilkes, Eades, D'Antoine, Read, Ishiguchi, and Doyle, 2004, P.303). Compared with non-Aboriginal children, Aboriginal children are nearly four times more likely to be subject to substantial abuse (Doyle & Hill, 2008). The high rates of domestic violence and stressful events have a destructive impact on "children's emotional, behavioural, and cognitive development" (SCRGSP, 2009, p.4.127). Also, suicide death rates are higher for Aboriginal peoples than non-Aboriginal peoples both in Canada and Australia (SCRGSP, 2009). First Nations' suicide and homicide rates are 2.5 and 6 times higher respectively than other people (Assembly of First Nations, 2010). Compared to non-Aboriginal children, Aboriginal ones are more likely to experience health problems, such as adverse hearing conditions and chronic illnesses, which can affect their ability to attend school regularly (Barsh, 1994; Doyle & Hill, 2008; Fred Hollows Foundation, 2010). The impact of poor health on academic achievements of Aboriginal students is profound, especially during the early years of schooling.

In addition, teenage pregnancy and having a dependent play a negative role in the schooling of Aboriginal women. First Nations youth show a significantly high rate of teenage pregnancy in Canada, particularly in "British Columbia, Alberta, the Prairie, and Atlantic provinces", where the rate of First Nations teenage pregnancy is four times that of the general population (Chalifoux & Johnson, 2003, p.71). Furthermore, Aboriginal youth under 15 years old are up to 18 times more likely to be pregnant than the general youth (Chalifoux & Johnson, 2003, p.71). As a result of pregnancy, young women tend to drop out of school and are less likely to obtain a high school diploma (Satchwell, 2004). Apart from impacts of teen pregnancy on high school completion, those who have dependents are less likely to engage in postsecondary studies as well (ACCC, 2010; Malatest & Associates, 2007). Students with dependents are more likely to discontinue their study in order to care for their child and to fulfill their increased financial needs (ACCC, 2010; CSA et al., 2011). *The Class of 2003* survey showed that Aboriginal young people with dependents are less likely to pursue higher education than those with no dependents (Malatest & Associates, 2007, p.37). Considering the high rates of teenage pregnancy and Aboriginal students with dependents, lack of a good Aboriginal support system can force many Aboriginal students to delay their pursuit of postsecondary study or give it up altogether.

Apart from overcrowded housing, health conditions, and teenage pregnancy, factors such as local employment opportunities, drug use, juvenile crimes, peer influences, and some personal factors, can contribute to poor academic performance of Aboriginal youth or their decision to leave school (Cogem Research Inc., 2001; Looker, 2002; Malatest & Associates, 2002; Satchwell, 2004). Also, mobility is another factor that affects high school completion of Aboriginal students (CCL, 2008). Most of these factors are tend to exert an

indirect impact on PSE participation, as their effect on academic achievements of Aboriginal students started long before high school. Comparatively speaking, these factors have a more significant impact on the high school completion of Aboriginal students, which, in turn, affects their PSE participation.

As discussed above, Aboriginal students are disadvantaged both financially and non-financially in achieving academic success regardless of which jurisdiction they are in. Being one of the disadvantaged groups, Aboriginal students are more likely to possess many characteristics of other groups and face more complex conditions (CCL, 2009b; Malatest & Associates, 2002). While there are joint impacts of multiple barriers on PSE participation of Aboriginal students, it is important to note that most of the identified barriers can exert a negative impact on the education of Aboriginal children at the very early stages of their life. Considering the high rates of Aboriginal peoples with no high school diploma, more focus need to be put on factors leading to low high school graduation rates. Due to the close connection between high school performance and early educational as well as cognitive and emotional development, the discussions on barriers to PSE needs to include factors that affect a student's educational and intellectual development at an early age. Therefore, research on barriers to higher education of Aboriginal peoples has to go beyond high school performance and explore various factors that have either a direct or indirect impact on their overall educational attainment.

### **3.3. Conclusion**

Overall, this literature review section has attempted to describe the major barriers to postsecondary study facing the population at large and Aboriginal peoples in particular. As revealed in the discussion, most of the identified barriers to PSE have a joint impact and the disadvantaged groups tend to face other barriers in addition to the predominant ones. Therefore, none of these barriers can be overlooked when efforts are undertaken to enhance PSE participation of Aboriginal peoples. For instance, when a student comes from a low-income family, it not only means that he/she faces challenges associated with lack of financial support, but it also implies that this student is less likely to have access to non-financial resources, such as social and cultural capital (Educational Policy Institute, 2008).

Under most circumstances, financial barriers are closely tied to non-financial barriers faced by many potential PSE participants, particularly in the case of disadvantaged groups like Aboriginal students. Therefore, the interaction between barriers is likely to be the focus of any studies that address barriers to higher education. Berger et al (2007) highlighted the notion of "interacting" barriers in their study and claimed that this notion can help to reduce the risk that "policy-makers will get side-tracked in an unproductive either/or debate over whether financial or non-financial barriers are more important" (Berger et al., 2007, p.1). The notion of interacting barriers considers academics, finances, interest, and motivation together and focuses attention on the scale of challenges faced by youth (Berger et al., 2007). This does not imply that all barriers affect PSE non-attendants equally. Berger et al. (2007) argued that among all barriers, motivational/informational barriers are the most important ones faced during the pursuit of PSE. While emphasizing the inter-relation of multiple barriers to PSE, scholars from the Educational Policy Institution (2008) believe

that the barriers relevant to family background and academic success are the predominant ones in determining youth's PSE participation. The different opinions on the most important barriers indicate that the relative importance of various barriers needs to be determined by further examining the characteristics of the targeted groups.

The overview of barriers to PSE faced by Aboriginal students indicates that Aboriginal students encounter more complicated obstacles than their non-Aboriginal counterparts and are face several socio-economic and cultural barriers to successful academic performance at a much earlier age than secondary school. It also shows that Aboriginal peoples across jurisdictions face similar barriers. Given the legacy of residential schooling, the cultural and language-related differences as well as socio-economic gaps between Aboriginal and non-Aboriginal peoples, any new studies on barriers to PSE faced by Aboriginal peoples must explore, in-depth, all of these related factors. Including factors beyond the secondary education, the studies would not only provide profound insight into all relevant obstacles hindering Aboriginal people's educational success, but also help to attack challenges from different angles. Moreover, considering little differences in barriers to PSE faced by Aboriginal students across jurisdictions, New Zealand can be a great model of successfully overcoming the barriers and closing educational gaps between Aboriginal and non-Aboriginal peoples for both Canada and Australia.

## **4. FACTORS ASSOCIATED WITH PSE OF ABORIGINAL PEOPLES IN THE NORTH**

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While Aboriginal peoples in the North may share many barriers with their southern counterparts, these barriers may affect Aboriginal students in the territories in a different way from those in the rest of Canada. In comparison with most of their southern counterparts, Aboriginal students in the territories may face more critical challenges of overcoming obstacles to higher education in the arctic region. Although federal and territorial governments have implemented a number of educational initiatives and programs and increased attention has been paid to educational issues in the North, the specific barriers to PSE faced by Aboriginal students in the North are lack of in-depth research. Based on the data and information gathered through a variety of sources, this section will attempt to discuss socio-economic factors relevant to higher education of Aboriginal peoples in the North and to present information on what is and not known about those factors.

### **4.1. Mobility of the Core Working-age Group in the Territories**

For this discussion to proceed, it is crucial to recognize that Canadians with a higher level of education are more likely to have higher mobility than Canadians in general (Statistics Canada, 2008b). Approximately 23 percent of the core working-age group (aged between 25 and 64) who moved to another province or territory are university degree holders (Statistics Canada, 2008b, para.2). The *2006 Educational Portrait of Canada*, Statistics Canada (2008b) composed a table that presents census data on interprovincial migration of the core working-age group in Canada and excludes international migration (Table 1). As table 1 has revealed, post-secondary graduates show quite high rates of interprovincial mobility in most of provinces. While the three territories display similar trends, the relatively small sample size in the North is inappropriate for comparing the migration ratios between the territories and other provinces. Considering the high mobility of PSE degree holders in the territories, it is necessary to discuss potential issues with the current data on the educational attainment of Aboriginal peoples in the North.

The mobility of Aboriginal peoples with a PSE degree in the North can have a significant impact on understanding the actual educational attainment of northern Aboriginals. Many newcomers to the territory have come to take up employment as teachers or civil servants or to work in other professional and trade areas (Poelzer, 2009). However, there is no accurate data on northern Aboriginal peoples who hold a PSE degree and stay in the North or those who earned a PSE degree outside of the North and did not return to their home territory. Lack of data on the number of these inter-provincial migrants has presented a great obstacle for this study. As a result, this study will discuss the factors with no consideration given to the original location of PSE degree holders residing in the North.

There are lower numbers of inflow and outflow of post-secondary graduates in the North than those in other provinces. PSE degree holders also demonstrate a higher mobility than high school graduates and people with less education in each territory. Table 1 shows that

more people moved out of than moved into the North between 2001 and 2006. While Nunavut attracted the least PSE holders, the NWT and Yukon received a number of well-educated workers, particularly university graduates. Compared to other territories, the NWT appeared to be the one with the highest outflow of PSE holders. Given the low proportion of university degree holders in the territorial populations, a high rate of interprovincial migration of highly educated workers can affect the educational profile, university education in particular, of the northerners.

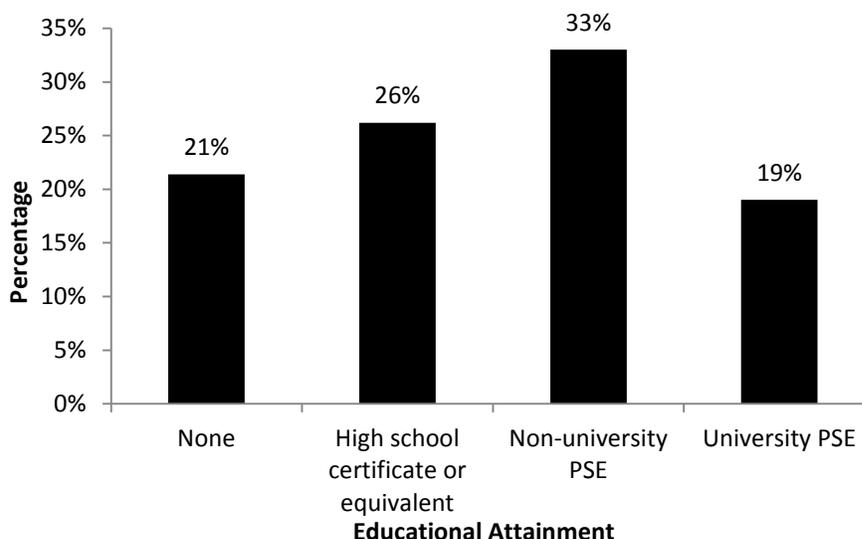
Table 1

Net number of persons between the ages of 25 and 64 who have changed their province or territory of residence from 2001-2006 arranged by educational attainment

Provinces/ Territories	Level of educational attainment						Total
	Less than high school	High school diploma	Trades certificate	College diploma	University certificate or diploma below bachelor level	University degree	
Newfoundland and Labrador	220	-795	75	-45	-75	-1,230	-1,850
Prince Edward Island	140	250	115	20	10	135	670
Nova Scotia	-300	-535	-735	180	-230	-2,820	-4,440
New Brunswick	-455	-635	-670	-980	-230	-2,735	-5,705
Quebec	75	-1,400	820	-1,505	-835	-3,920	-6,765
Ontario	-3,695	-4,025	-3,925	-5,555	20	-750	-17,930
Manitoba	-1,810	-2,535	-1,390	-2,245	-810	-4,440	-13,230
Saskatchewan	-855	-2,985	-1,400	-2,330	-820	-5,415	-13,805
Alberta	6,420	9,905	5,865	9,355	2,015	10,760	44,320
British Columbia	450	2,875	1,530	3,285	1,110	9,890	19,140
Yukon Territory	-25	-50	-120	145	-30	100	20
Northwest Territories	-145	-5	-135	-335	-80	430	-270
Nunavut	-10	-75	-30	5	-45	-15	-170

Source: Statistics Canada, *Educational Portrait of Canada, 2006 Census: Mobility*, Table 12, 2008, p.24.

While table 1 presents information on the inflow and outflow of the core working group in each province and territory, Figure 1 focuses on the interprovincial mobility of Aboriginal peoples aged between 25 and 64 in the North. The overall mobility of Aboriginal PSE holders was higher than that of Aboriginal peoples with no PSE (52% vs. 47%), which is consistent with the trend of the general population (Statistics Canada, 2010). Therefore, Aboriginal peoples with PSE residing in the North are as likely as their non-Aboriginal counterparts with regard to interprovincial migration. Compared to non-Aboriginal people, Aboriginal peoples in the North have lower rates of PSE participation, particularly in university education (Statistics Canada, 2006b). According to the 2006 Census, the North had approximately 1870 Aboriginal peoples aged between 25 and 64 that have obtained a university degree (Statistics Canada, 2006b). Therefore, a mobility ratio of 19 percent of university degree holders can lead up to a change in the university education attainment of Aboriginal population in a territory.



*Figure 1* Aboriginal interprovincial migrants aged 25-64, five years earlier, the North, 2006

However, both table 1 and figure 1 provide fragmentary information on mobility of Aboriginal peoples with PSE in the North. Table 2 fails to single out Aboriginal peoples from the general population who moved, whereas figure 1 does not indicate whether they moved to or out of the North. Although the insufficient data cannot show the exact number of northern Aboriginals with PSE, the high mobility indicates that a certain number of PSE degree holders in the North can be people who are originally not from the North but have moved to the territories for employment opportunities. As a result, the current data on the university degree holders in the North may not represent true university education attainment of Aboriginal peoples in the territories.

## 4.2. PSE Participation of Aboriginal Peoples in the North

Figure 2 presents data on PSE participation of Aboriginal and non-Aboriginal peoples aged 25 and over in the North and the South of Canada. PSE participation of Aboriginal peoples in the North is compared with that of Aboriginal peoples in the South and non-Aboriginal peoples in the North and the South. In addition, the proportions of PSE participants in high school graduates are compared between the above groups. Among four groups, Aboriginal peoples in the North show the lowest participation rates in both university and non-university education. Both Aboriginal and non-Aboriginal peoples in the North show higher rates of PSE participation in high school graduates than their counterparts in the South. Moreover, Aboriginal peoples in the North display higher PSE participation rates in high school graduates than non-Aboriginal peoples in the South (72% vs.70%). In addition, non-Aboriginal peoples in the North demonstrate the best PSE participation across the country. The interesting characteristics of PSE participation in the North imply that a further analysis on PSE degree holders in the North is necessary.

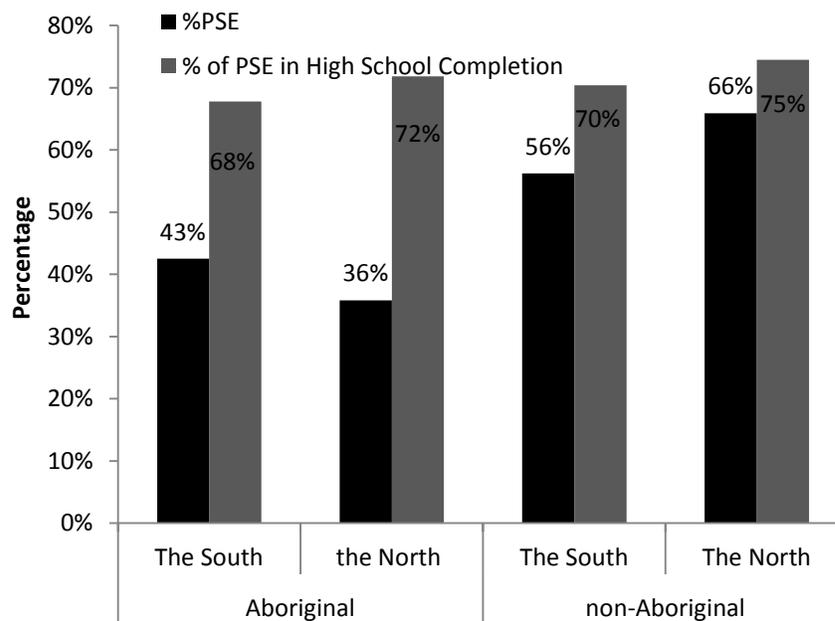
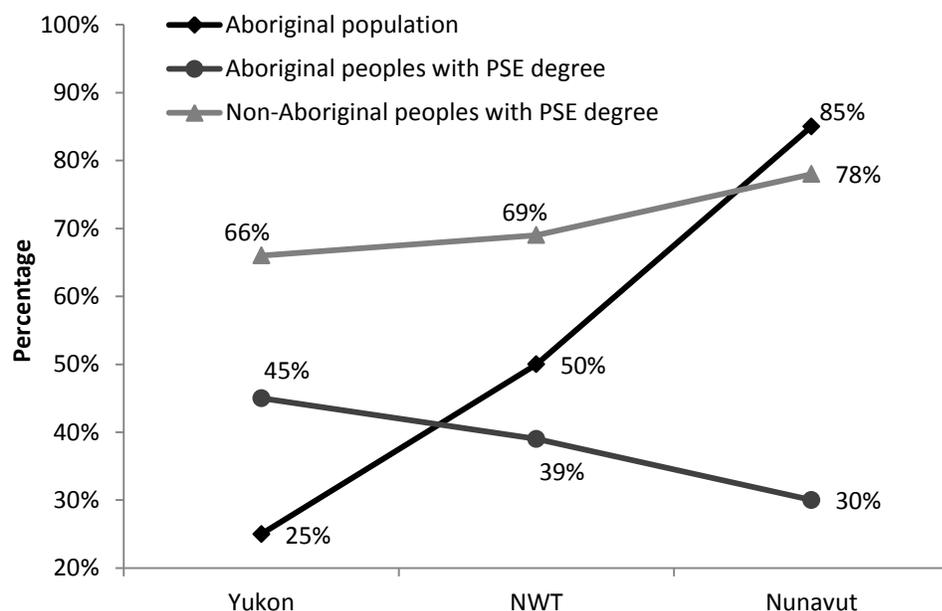


Figure 2 PSE participation of Aboriginal and non-Aboriginal population aged 25 and over, Canada, 2006

## 4.3. Concentration of Aboriginal Populations and PSE Participation of Aboriginal Peoples in the North

Aboriginal peoples represent the majority of the territorial population in the North and they are not evenly distributed across the territories (Statistics Canada, 2006a). Nunavut leads the way, with the highest percentage (85%) of the Aboriginal peoples in the population, compared to one-half in the NWT and one-quarter in Yukon (Statistics Canada, 2006a). This section explores the connection between the concentration and PSE participation of the Aboriginal population in the North.

Figure 3 shows that the concentration of Aboriginal peoples in a territory is associated with their PSE participation. With the lowest proportion of Aboriginal population in the North, Yukon shows the least gap of PSE participation between Aboriginal and non-Aboriginal peoples. In contrast to Yukon, Nunavut shows the highest rate of Aboriginal peoples and the largest gap of PSE participation between Aboriginals and non-Aboriginals in the North. Given the high percentage of non-Aboriginal PSE holders in Nunavut, it is likely that the mobility of well-educated workers contributes to the huge gap of PSE participation between Aboriginal and non-Aboriginal peoples there. Figure 3 indicates that the concentration of Aboriginal peoples in a territory is negatively associated with their PSE participation but positively associated with PSE participation of their non-Aboriginal counterparts. However, due to lack of exact data on the PSE holders in the North, this conclusion cannot be generalized without more substantial evidence. Also, the notable differences in PSE participation between territories are worthy of further investigation.



*Figure 3* Proportions of Aboriginal population and PSE participation of Aboriginal and non-Aboriginal peoples aged 25 and over, the North, 2006

In accordance with the high concentration of the Aboriginal population in the North, the percentage of Aboriginal peoples who have a mother language other than English or French is also quite high. Nunavut shows the highest rate (81%) of Aboriginal peoples who have non-official languages as their mother tongue, compared to that of 27% in the NWT and 11 percent in Yukon (Statistics Canada, 2006c). According to the 2006 Census, approximately 98.8% of Aboriginal peoples in Nunavut are Inuit and the Inuktitut language is the strongest in this territory (Statistics Canada, 2008a). A study conducted by the Inuit Tapiriit Kanatami (2004) showed that English constitutes a second language for most Inuit youth, and their reading and writing abilities need improvement in order to meet the requirements of PSE programs.

Speaking a first language other than the official languages can contribute to low levels of English/French literacy skills in the North. According to the *International Adult Literacy and Skills Survey* (IALSS), Aboriginal peoples in the North have poor levels of English/French literacy. The survey indicates that “over half (54.8%) of the Aboriginal peoples in the Yukon, 69 percent in NWT, and 88 percent of the Inuit in Nunavut, have scored below level 3”, which is “the minimum skill level considered necessary to meet the challenges of today’s society” (ABC Canada Literacy Foundation, 2005, p.4 & Nunavut Literacy Council, 2010, p.1). The significantly low level of English/French literacy skills can be attributed to the low frequency of use of the official languages in the territories. The survey finds that “more than 60 percent of respondents in Nunavut claimed Inuktitut as their mother tongue and more than half reported using this language on a daily basis” (Statistics Canada, 2005, p.4). Therefore, lack of proficiency in the official language can contribute to the low level of educational attainment of most Aboriginal peoples in the North.

In addition, a recent study has found that compared to Aboriginal peoples in other arctic regions, those in northern Canada show stronger family ties and Inuit people in northern Canada are the least likely to want to leave their communities (Delic, 2009; Poppel, Kruse, Duhaime & Abryutina, 2007). The close bonds with family can affect educational aspirations of Aboriginal youth and their decision is likely to be influenced by whether they are willing to leave their community for higher education or not.

The above analysis reveals that the concentration of Aboriginal population in a territory is likely to be one of the factors related to PSE participation of both Aboriginal and non-Aboriginal peoples in that territory. Moreover, the high proportion of Aboriginal peoples who primarily speak non-official languages is likely to play a part in the low educational attainment of Aboriginal peoples in the North. However, the concentration of Aboriginal populations in a territory is unlikely to be the sole factor affecting PSE participation. Unfortunately, to our knowledge, very little systemic information is available to determine the extent to which the concentration of the Aboriginal population in each territory has contributed to the academic performance of the territorial Aboriginal peoples. That said, the above data only suggests that there appears to be an association between PSE participation and concentration of the Aboriginal population in each territory.

#### **4.4 Financial Factors and PSE Participation of Aboriginal Peoples in the North**

As mentioned in the previous section, financial factors have been considered to be the most important barriers to PSE facing Aboriginal peoples in Canada (CMSF, 2005). Apart from personal employment income, the main financial resources for postsecondary study are family support and financial assistance programs (Berger et al., 2007). This part will provide information on factors related to available financial support available for Aboriginal peoples in the North.

According to 2006 Census data, northern Aboriginals showed higher individual and household incomes than the national average ones (Statistics Canada, 2007c, d, e). The

Census data indicates that earnings composed the majority of Aboriginal individual income in the North (Statistics Canada, 2007c, d, e). In 2005, the proportions of government transfers in the total income for the Aboriginal individuals 15 years and over in the territories were: 15.5 percent in Yukon, 11.7 percent in the NWT, and 17.5 percent in Nunavut, which are lower than the Canadian average of 18.1 percent for the total Aboriginal population (Statistics Canada, 2007c, d, e). In the meantime, compared to a median household income of \$43,265 for the total Aboriginal peoples in Canada, Aboriginal peoples in the territories show higher median household income: 6 percent higher in Yukon, 15 percent higher in Nunavut, and 33 percent higher in the NWT (Statistics Canada, 2007c, d, e). However, it is unclear what the proportion of government transfers is in the family income. As a result, it is unknown to what extent Aboriginal families rely on the government transfers and how it affects the financial support they are able to provide for their children's education.

Although the northern Aboriginal peoples show relatively high household incomes, Figure 4 reveals that household incomes are not likely to have a direct impact on PSE participation of Aboriginal peoples in the North. As it can be seen, Yukon has the lowest median household income but has the highest rate of PSE participation in the North. Meanwhile, the highest median household income of Aboriginal peoples in the NWT does not lead to the highest rate of PSE participation among the three territories. Therefore, as far as the relationship between family income and the pursuit of higher education is concerned, the North does not show a strong association. On the other hand, overcrowding housing has been a key challenge in the North (SENES Consultants Ltd., 2005; Webster, 2006). The high household incomes may fail to show the actual incomes of Aboriginal families in the North. Therefore, more relevant data are required for understanding the impact of family incomes on PSE participation of Aboriginal peoples in each territory.

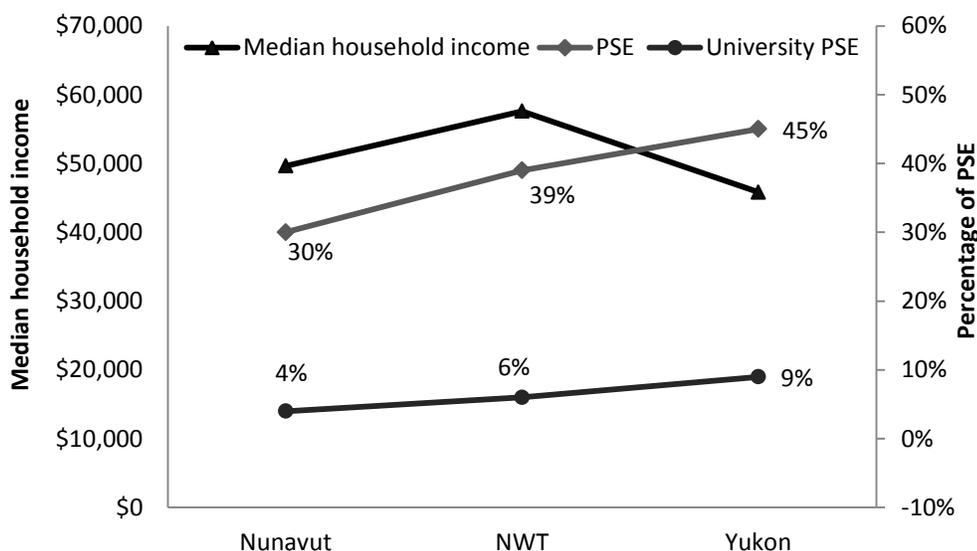


Figure 4 PSE participation of Aboriginal peoples aged 25 and over and median Aboriginal household income, the North, 2006

In the North, living expenses also need to be considered. Living expenses in the North exceed the Canadian average. For instance, the cost of living in Nunavut is around 60 to 65 percent higher than those living in the rest of Canada (Legislative Assembly of Nunavut, 2008). In Nunavut, households spend 84 percent more on groceries than they do in southern Canada (Nunavut Employees Union, 2003, p.2). Similarly, residents of the NWT and Yukon have higher living expenses. On average, households in the NWT spend \$ 1,883 per year in heating fuel cost, 75 percent higher than that of the rest of Canada at \$1,073 (“NWT Economic Trends,” 2004, p.7). As a result, many northerners live in poverty and approximately 30 percent of the population receive social assistance (“Welfare to Work,” 2010). Therefore, the relatively high household incomes of territorial Aboriginal peoples are actually undermined by the high cost of living.

In addition to family incomes, the availability of student financial assistance from government or other sources is another factor related to accessing PSE. However, Aboriginal peoples in the North face a series of challenges regarding available financial assistance. On one hand, Métis and non-status Indians are not eligible for funding under the PSSSP due to the programs aimed at Status Indians and Inuit residing outside of the NWT and Nunavut only (INAC, 2010a). Thus, the Canada Student Loan Program (CSLP) and associated territorial financial assistance programs are main funding resources that Métis, non-status Indians and Inuit residing in the NWT and Nunavut could seek for supporting their higher education. On the other hand, the NWT and Nunavut do not join the CSLP, but offer their own student financial assistance programs, i.e. loans or grants (HRSDC, 2009). Although each territory has a variety of student financial assistance programs available, most of these programs indicate that students are eligible for funding from only one territorial, provincial or federal student financial assistance program and receiving any sponsorship from another organization would result in ineligibility for financial aid from territorial student financial programs (Government of the Northwest Territories, 2011; Government of Nunavut, 2011a & b; Government of Yukon, 2010 ). According to a survey conducted by the NWT Bureau of Statistics, approximately 95 percent of respondents were satisfied with the NWT student financial aid services while some respondents mentioned their unpleasant experience with late cheques and late responses from the student financial assistance program staff (NWT Bureau of Statistics, 2010b, p.1). While the survey provides some information on the student financial assistance services in the NWT, it is difficult to probe into the effectiveness and efficiency of the student financial assistance programs in the North due to the lack of information both, on the extent to which the programs are able to meet financial needs of Aboriginal students, and on the availability of other financial channels that Aboriginal students can seek out for assistance (Malatest & Associates, 2008).

As a result, the presented information is insufficient for revealing the specific components of financial barriers to PSE faced by the Aboriginal peoples in the North or whether these financial barriers are the predominant obstacle in their pursuit of higher education. The data on the family income, living expenses, and available financial aid for PSE are fragmented and unable to provide information on how many financial sources Aboriginal students in

the North can depend on or how much the lack of financial support affects Aboriginal students' decision on obtaining PSE.

#### **4.5. High School Completion**

A large portion of the Aboriginal population with an education level less than that of a high school diploma is a distinct feature of educational attainment in the North. Compared to other Canadians, Aboriginal peoples in the territories are much more likely to quit school early. According to the 2006 Census, the proportions of Aboriginal peoples who do not complete high school are 41 percent in Yukon, 55 percent in the NWT, and 69 percent in Nunavut respectively, compared to 23 percent for non-Aboriginal Canadians in general (Statistics Canada, 2006b). Only one-quarter of students are able to graduate from secondary schools in Nunavut (CMEC, 2003, p.12). As for those who did complete high school successfully, the rates of PSE participation of Aboriginal peoples in the North are slightly higher than non-Aboriginal peoples across the country (68% vs. 67%) (Statistics Canada, 2006b). The data suggests that northern Aboriginals who have completed high school are as likely as other Canadians to participate PSE. Thus, the great number of high school dropouts appears to be a key problem contributing to low rate of PSE participation among northern Aboriginals. On the other hand, since there is no data on the number of PSE degree holders from other parts of Canada living in the North, the actual educational attainment of northern Aboriginals is likely to be much lower.

#### **4.6. Residential Schooling in the North**

The rate of Aboriginal children attending residential schools was higher in the North than the national average (Aboriginal Healing Foundation, 2002). Historical records show that there were two residential schools in Nunavut, six in Yukon, and eight in the NWT which operated between the 1950s and the 1990s (Assembly of First Nations, 2010). When a series of residential school were established across the North in 1950s, the number of Inuit children attending residential schools grew quickly (Stout & Kipling, 2003). There were communities which had all of their children forcibly removed (Aboriginal Healing Foundation, 2002). A recent study has found that the northern territories had more First Nations children than any other region of Canada with regards to having parents with residential school experiences (Bougie, 2009). Although, very few studies have examined the extent to which the attendance at residential schools has contributed to the low PSE participation of Aboriginal peoples in the North.

#### **4.7. Parental Education**

The level of parents' education is unlikely to be high for Aboriginal peoples in the North. The 2006 Census data showed that the rates of northern Aboriginal peoples aged 35 and over without high school diplomas was 38 percent in Yukon, 49 percent in the NWT, and 63 percent in Nunavut, which is significantly higher than the rate of 22 percent for non-Aboriginal Canadians, and the rates for Aboriginal peoples with university degrees were 9 percent in Yukon, 6 percent in the NWT, and 4% in Nunavut, dramatically lower than that

of 24 percent for other Canadians (Statistics Canada, 2006b). A recent study showed that First Nations children in the North are more likely to have parents who dropped out of high school (Bougie, 2009). As a result, many Aboriginal youth in the North are likely to be first generation students. Given no more information on the parental education of Aboriginal students in the North, it is difficult to determine the extent to which parental education affects PSE participation of northern Aboriginals.

#### **4.8. Distance**

The North's population is distributed sparsely in the northern territories. Many territorial residents live in remote communities scattered across the arctic region. Approximately 73 percent of the communities in the North have less than 1,000 residents (Angus & Mitchell, 2009, p.4). Such communities can only be reached by air or winter roads (Davis et al., 2001; McMullen & Rohrbach, 2003). Schools in these remote communities are geographically isolated from each other and the major communication links with the 'outside' are via satellite, television, telephone, email, and the internet (Davis et al., 2001). A study conducted by the Council of Ministers of Education, Canada (CMEC) (2003) indicates that geographical barriers have a significant impact on the schooling of young people in the NWT and approximately 60 percent of students in the NWT drop out of secondary school (p.5). As a result of the distance of remote communities, regular course delivery is often difficult. Moreover, the light season and the dark season as well as adverse weather can lead to low attendance at schools in northern communities (Davis et al., 2001). In addition, staff turnover in such isolated schools is significantly high, reaching to approximately 100 percent annually for some northern schools (Davis et al., 2001). Thus, remote geography and a harsh climate create schooling challenges for Aboriginal peoples living in these communities.

Unlike its neighboring provinces, the North does not have universities in any of its territories. There is Aurora College in the NWT, Nunavut Arctic College in Nunavut, and Yukon College in Whitehorse, Yukon. Northern Aboriginals show higher attendance rates at non-university PSE. Of the total Aboriginal population, approximately 31 percent in Yukon, 27 percent in the NWT, and 19 percent in Nunavut have obtained a diploma or certificate in a non-university postsecondary facility while only 7 percent in Yukon, 4.5 percent in the NWT, and 3 percent in Nunavut have a university degree (Statistics Canada, 2006b). Although the University of the Arctic was launched in 2001, it is not a degree-granting institution ('About UArctic,' 2010). As a result, Aboriginal students who are not willing to leave their community for pursuing higher education need to seek for other education channels.

Distance education and online education (e-learning) have been playing an increasingly important role in the higher education of Aboriginal students residing in remote and isolated regions (CCL, 2009a; CCL, 2011; CMEC, 2001; Greenall & Loizides, 2001; Gruber & Coldevin, 1995; Learning Cultures Consulting Inc., 2006; McMullen & Rohrbach, 2003). The territorial governments have made great efforts to supporting online learning and have been in collaboration with educational institutions to develop and

promote online learning programs in their jurisdictions (CCL, 2009a; CEMC, 2001; Learning Cultures Consulting Inc., 2006). The NWT government has formed a partnership with Alberta Education regarding using the latter's curriculum for increasing e-learning within its jurisdiction (Learning Cultures Consulting Inc., 2006). For instance, Alberta-North provides Aboriginal peoples in the NWT access to college and university courses delivered online (Alberta-North, 2011). In addition, Chinook College, Aurora College, and Yukon College offer some online courses and a few certificate and diploma programs through teleconferencing and other distance education channels (CMEC, 2001). The residents of Yukon can take college and university courses offered by distance education through Yukon College, Athabaska University, University of Arctic, Thompson Rivers University and some other educational institutions (YUWIN, 2011). In Nunavut, the Nunavut Department of Education has recently built a partnership with the University of Prince Edward Island, Nunavut Arctic College, and St. Francis Xavier University to develop an online program that offers Master of Education in Leadership in Learning in Nunavut (AUCC, 2011b). In 2009, 21 Inuit students from Nunavut completed this program successfully (AUCC, 2011b, para.2). Thus, distance education provides northern Aboriginals an opportunity of receiving college or university education with no need of leaving their community.

However, an overview of studies on distance education and e-learning reveals some challenges that are encountered in delivering courses through various distance education means (CCL, 2011; Greenall & Loizides, 2001; Gruber & Coldevin, 1995; McMullen & Rohrbach, 2003; Sisco, 2010). The identified challenges include inadequate funding for the necessary software licensing and technical infrastructure building, lack of technical equipment and on-site technical support, limited control over education, lack of internet experience and skills, limited access to the internet, developing appropriate curriculum, and high turnover rate of teachers (Greenall & Loizides, 2001; Gruber & Coldevin, 1995; McMullen & Rohrbach, 2003; Sisco, 2010). Therefore, it is crucial to examine the effectiveness of distance education programs in the North and their role in contributing to PSE participation of Aboriginal peoples in the territories.

#### **4.9. Household Environment**

As discussed above, the capability of participating in the higher education is closely related to academic preparation of Aboriginal students. It is noticeable that a student's academic preparation is associated not only with his/her school performance in the secondary school and but also with his/her educational and living experience at the earlier stage. A supportive family and household environment plays a significant role in the cognitive development and academic performance of children (Zubrick, Silburn, Lawrence, Mitrou, Dalby, Blair, Griffin, Milroy, De Maio, Cox & Li, 2005). Some social issues related to poor living environment can have an influence on a student's dropping out of school and lack of academic preparation for higher education.

Overcrowding is a pervasive and widespread problem in the North. The housing condition is notably worse in Nunavut than in the other territories (Webster, 2006). Hidden

homelessness<sup>4</sup> and overcrowding are key challenges in Nunavut (Webster, 2006). It is estimated that Nunavut's Inuit have the second highest crowding rate in Canada and over half of all dwellings in Nunavut have more than five occupants (Webster, 2006). As for dwellings that six or more people share, the NWT shows a significantly high rate, twofold of that of the national level (SENES Consultants Ltd., 2005). Housing is a more severe problem for women and children in the North. A recent study claims that all women in the North are at risk of homeless while a large number of them and their children experience "either absolute homelessness or hidden homelessness" (Qullit Nunavut Status of Women Council, 2007, p.15).

Poor household environments have been associated with both health problems and domestic violence in the North. To a large extent, poor housing conditions have contributed to a series of problems among Inuit people, including "low achievement levels in schools, spousal abuse, respiratory tract infections among infants, depression, and substance abuse" (ITK, 2004; ITK, 2007, p.11; Knotsch, Akalehiywot & Okalik-Syed, 2010, p.3; NAHO, 2008, p.2 ). Compared to the rest of Canada, the North has higher rates of spousal violence, in which common assault is dominant (Bressan, 2008). As a proportion of all violent incidents, Nunavut (20%) has one of the highest rates of spousal violence in Canada (Bressan, 2008, p.6). In addition, the rate of juvenile crime among male youths in NWT was substantially higher (21%) than the Canadian average (6%), while that of the female youth is more than four times higher in 2003 (SENES Consultants Ltd., 2005, p.14). From 2001-2006, Yukon's violent crime was over 1.5 times higher than the highest provincial rate (SENES Consultants Ltd., 2005).

Together, violence and overcrowded housing result in the maintenance of environments that are not conducive to children's academic success. Despite the immense need for it, limited research has been undertaken to analyze the impact of living environment on the low educational attainment of the northern Aboriginal peoples. This results in very few data sources from which relevant data can be obtained for this study.

#### **4.10. Health Conditions**

Issues related to poor health conditions can lead to low academic achievements and early school leaving, which contribute to a student's disqualification for higher education. Compared to most of other factors related to PSE participation of Aboriginal peoples, health conditions are more likely to create a disadvantaged group with special educational needs. The impact of health issues on the schooling of Aboriginal students and the extent to which their special needs are met are crucial in their educational achievements. The following data on the health problems of Aboriginal peoples indicates that the acute health conditions in the North can prevent a number of Aboriginal youth from realizing their educational aspirations.

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<sup>4</sup> "Hidden homeless" means people "staying with friends or family or anyone who will provide a shelter" (Nunavut Status of Women Council, 2007, p.31). "In the North, [it] refers to people survive by going from home to home for a night or two, either with family, friends, or families that bring them in from the harsh conditions" (NAHO, 2008, p.4).

Mental health condition is critical in the North, where rates of suicide incidents and drug and alcohol abuse are substantially high (North Sky Consulting Group, 2009). In Yukon and the NWT, the rate of the age-standardized mortality of suicide is just under double (18.5 and 20.8 per 100,000 people, respectively) of the national level (11.3 per 100,000 people), while in Nunavut, the rate is a catastrophically high 80.2 per 100,000 people (Abele, 2009, p.54). In Nunavut, approximately 40 percent of reported deaths were suicides in the last 8 years (“Annirusuktugut,” 2007). Inuit youth is one of the groups that show the highest suicide rates not only in Canada but in the world (Hicks, 2009). For instance, approximately 56 percent of suicides in Nunavut are by men younger than 25, compared to 7 percent Canada-wide (Hicks, 2009). The suicide statistics in the northern territories indicate severe levels of depression and are warning signs of a social emergency.

According to the *Canadian Community Health Survey* (2003), the proportion of heavy drinkers<sup>5</sup> over the age of 12 was 39.9 percent in the NWT and 31 percent in Nunavut, only behind Newfoundland at 32.2 percent in Canada (Healey & Meadows, 2007, p.206). The *2006 NWT Addictions Survey* indicates more than half of Aboriginal males and females aged 15 years and over fall under the category of heavy drinkers (NWT Bureau of Statistics, 2010a). A recent study has found that alcohol abuse contributes substantially to death rates from all types of injury including liver disease, homicide, suicide, other psychiatric illnesses and foetal alcohol spectrum disorder (Healey & Meadows, 2007).

In addition to the high rates of suicide and alcohol abuse, Aboriginal peoples in the North face other health problems. Statistics show that sexually transmitted infections (STIs) have become an increasing health problem in the North, particularly in the NWT, which has the highest rates of STIs across the country (Northwest Territories Health and Social Services, 2009). Furthermore, Tuberculosis is a long-standing problem of epidemic importance for Aboriginal peoples. The rates for Tuberculosis are 8 to 10 times greater among Aboriginal peoples in the North than their counterparts in the Atlantic region (Barsh, 1994). It is safe to conclude that such adverse health conditions can prevent students from attending school and related activities regularly and affect their academic performance. However, there are no studies that have examined how health conditions affect PSE participation of Aboriginal peoples in the North.

Apart from those mentioned above, there are other factors likely to contribute to the school performance of Aboriginal youth. These factors include access to information, personal aspiration and motivation, peer influence, and school quality. Due to lack of relevant data, it is difficult to examine how these factors affect PSE participation of Aboriginal peoples in the North. However, considering the low educational achievement of the total Aboriginal population in the North, the above mentioned factors cannot be excluded when considering the academic performance of Aboriginal youth and their decisions to attend PSE.

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<sup>5</sup> Heavy drinker is defined as “population aged 12 and over who reported having five or more drinks on one occasion, at least once a month in the past 12 months” (Statistics Canada, 2006a).

#### **4.11. Conclusion**

To summarize, although the available data and information are insufficient to identify barriers to PSE participation of Aboriginal peoples in the North, this section has shed light on understanding the factors keeping Aboriginal peoples from obtaining better academic achievement.

First of all, it would be nearly impossible to understand the barriers without having data on the mobility of Aboriginal peoples with a postsecondary degree in the North. The available data on the educational attainment of the Northerners fail to differentiate inter-provincial migrants with PSE and those staying in the North. The foremost precondition of disclosing the barriers is to know the real educational attainment of Aboriginal peoples in the North.

Secondly, in regards to the high family incomes of northern Aboriginals and high living expenses in the North, the impact of financial factors can still be a significant barrier to postsecondary study of northern Aboriginal students. However, due to limited resources on the issue, further in-depth studies are required for understanding the roles played by financial and non-financial factors in PSE participation of Aboriginals in the North.

Furthermore, given the significantly high rates of Aboriginal peoples in the North with less than a high school education, it appears that high school incompleteness plays a key role in the low rates of PSE participation of northern Aboriginals. As a result, understanding the obstacles impeding completion of secondary schools would be the first step towards understanding obstacles to PSE faced by Aboriginal peoples in the northern territories.

Last but not least, due to the significantly different PSE participation rates and concentration of Aboriginal population in the three territories, it is likely that the gaps in PSE participation exist not only between Aboriginal and non-Aboriginal peoples in the North, but also amongst Aboriginal peoples in Yukon, the NWT, and Nunavut. Considering Aboriginal peoples in the three territories are facing similar challenges brought on by social, economic and geographical environment, it would be valuable to examine elements leading to the significantly different PSE participation among Aboriginal peoples in the three territories. However, without sufficient data on the socio-economic background of the Aboriginal population in the North, it is difficult to fully understand their disadvantages in attending higher education.

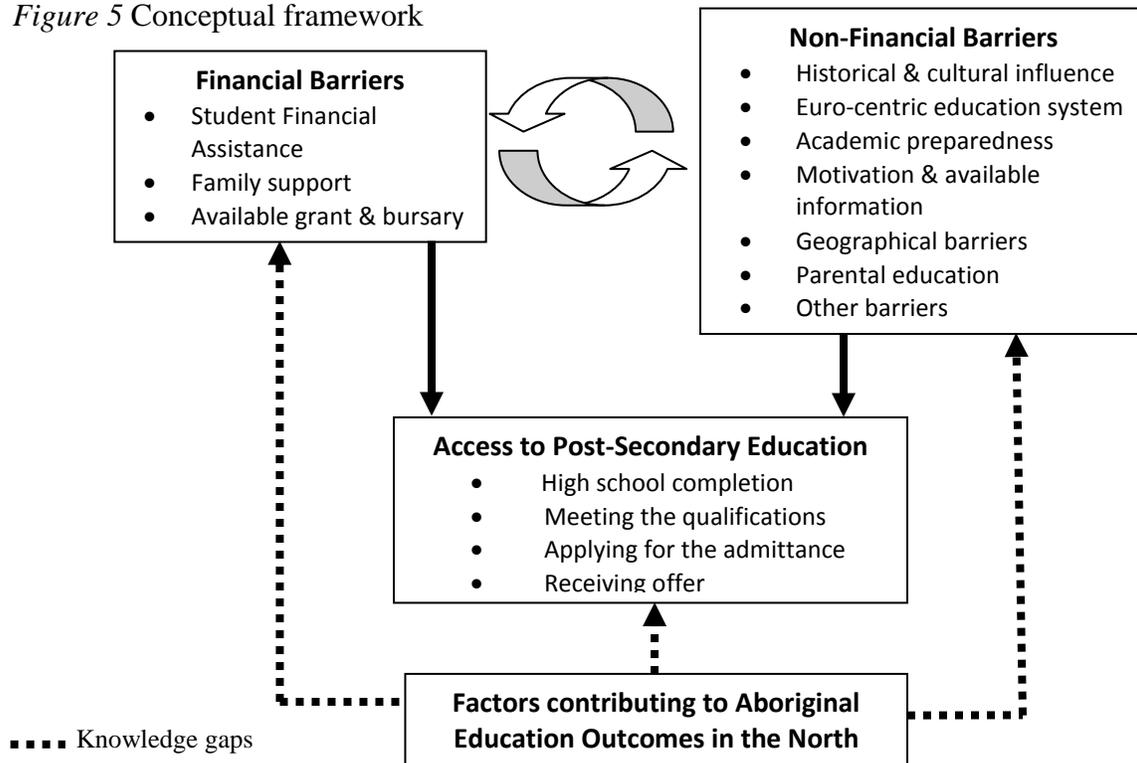
The result of the analysis highlights some key issues in understanding barriers to PSE in the North and confirms the necessity of addressing the knowledge gaps in the social, economic, cultural, and geographical conditions of northern Aboriginals. The following sections of this study will attempt to draw a picture of what is known about the barriers identified in the literature and what to be known about PSE participation of Aboriginal peoples in the North.

## 5. CONCEPTUAL FRAMEWORK

After combining the results of the literature review with the discussion of what we know about how socio-economic factors relate to educational attainment of Aboriginal peoples in the North, potential knowledge gaps were identified. These gaps are currently hindering the identification of barriers to PSE facing Aboriginal peoples in the North. As a result of the literature review, a number of key barriers that have a substantial impact on PSE participation of the Aboriginal peoples have been identified and can be labeled as either financial or non-financial. In the North, some socio-economic factors appear to affect academic performance of Aboriginal peoples as well. This section attempts to depict the findings in the context of a framework (Figure 5).

First of all, figure 5 displays the results of the literature review, which described findings regarding barriers to access to higher education faced by Aboriginal peoples in Canada and Australia. The framework captures only the key factors under the categories of financial and non-financial barriers. Figure 5 depicts the strong impact of both financial and non-financial barriers on access to PSE. However, financial and non-financial barriers are not isolated from each other. A dynamic interaction exists between these barriers. Financial factors directly and indirectly affect the academic performance and aspirations of Aboriginal peoples, and a variety of non-financial factors impact the availability of financial resources for potential PSE participants. In most cases, it is the interaction of multiple factors that ultimately deters potential PSE students from pursuing higher education.

Figure 5 Conceptual framework



The lower level of the framework consists of factors that have an influence on the academic performance of Aboriginal peoples in the North. These factors depict some disadvantages that can influence learning and development of Aboriginal students in the North. However, due to insufficient information, the knowledge we have on the Aboriginal peoples in the North can only provide some clues, rather than substantial evidence, on the barriers that affect their access to PSE. An overview of available information on the socio-economic conditions in the North indicates that the factors contain elements of both financial and non-financial contexts. Thus, the potential barriers contributing to the low PSE participation of northern Aboriginals can be either financial or non-financial or both. The dashed lines in Figure 5 refer to the insufficient evidence for identifying financial and non-financial barriers to PSE faced by northern Aboriginal peoples.

In sum, the literature review indicates that a great number of factors can impact PSE participation of Aboriginal peoples. As for Aboriginal peoples in the North, PSE participation can be hindered or blocked entirely by similar or quite different barriers. In order to identify these barriers, it is imperative to analyze the impact of relevant socio-economic factors on Aboriginal people's access to higher education in the North. Addressing the knowledge gaps would serve as the first step to identify the obstacles to PSE attendance faced by Aboriginal peoples in the North.

## **6. IDENTIFIED KNOWLEDGE GAPS**

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The previous sections have summarized barriers to PSE faced by Aboriginal peoples and examined what is currently known about PSE participation of northern Aboriginals. They have also presented evidence on factors that have an impact on PSE participation of Aboriginal peoples in the North. The discussion and the conceptual framework reveal that certain gaps exist in the knowledge of PSE participation of Aboriginal peoples in the North. This section attempts to highlight the major information gaps that future studies could usefully address.

Prior to further discussion, however, some general issues that are important to future research need to be raised. Firstly, compared to their southern counterparts, Aboriginal peoples in the North have received less attention from data and information collection. Although the censuses contain information on Aboriginal population in the territories, few other surveys conducted by Statistics Canada have included the territories into their survey scope. For instance, the *General Social Survey* (GSS) and the *Youth in Transition Survey* (YITS), which could have provided crucial information for this project, excluded all three territories from their surveys (Statistics Canada, 2009 a & b). As a result, the variety and comprehensiveness of research on Aboriginal peoples in the North are subject to the available census data and data collected by other jurisdictions and organizations. In addition, there are a lower number of in-depth studies that have directly examined issues related to barriers to PSE faced by Aboriginal population in the North. Increased efforts to encourage and support such studies would be of considerable benefit in tackling the challenges and improving the overall educational attainment of Aboriginal peoples in the territories.

The aforementioned issues are supported by the findings of a recent study conducted by the Council of Ministers of Education Canada (CMEC, 2010). The study identifies the knowledge gaps related to Aboriginal access to PSE in general. Apart from lack of data on the educational attainment of Aboriginal peoples, the study indicates that new research need to focus on gender difference in PSE outcomes, “different PSE outcomes between First Nations living on- and off- reserves”, and “the trends in transition” of “Aboriginal persons between secondary school completion and PSE enrolment” (CMEC, 2010, p.40). The knowledge gaps identified provide profound insight into the current problems in research on Aboriginal access to PSE and bring light to the future initiatives that should be taken on in the analysis of PSE participation of northern Aboriginals as well.

As described above, the knowledge gaps require more comprehensive data collection and information gathering in order to be filled. The knowledge gaps identified in this study are to identify the key elements that should be focused on during future data collection and to provide some directions for future research on the PSE achievements of Aboriginal peoples in the North.

First of all, it is important to obtain the number of northern Aboriginals who hold a post-secondary degree. The census data on the educational attainment of the northerners does

not disclose whether the post-secondary degree holders are people who were originally from the North or the southerners who temporarily moved to the territories for employment opportunities. Only the acute number of the post-secondary degree holders who received secondary education in the North can provide valuable information on the actual profile of educational attainment of Aboriginal peoples in the territories. Lack of such data undermines the reliability of present data on the educational conditions of northern Aboriginals. It is on the basis of accurate data that any research on related topics can be conducted. The accurate data would be able to provide a more profound understanding of PSE participation and the well-being of Aboriginal peoples in the North.

Secondly, there is a lack of studies on the effectiveness of the student financial assistance programs in the North. Yukon has different student financial assistance programs from the NWT and Nunavut. Considering the impact of financial supports on PSE participation, it is important to investigate the extent to which the financial aid programs are able to meet the needs of Aboriginal students, and the impact of student funding policies in different jurisdictions on the higher education of northern Aboriginal students.

Furthermore, there is also a need to conduct a comparative study on PSE participation of Aboriginal peoples in the three territories and to examine the key factors resulting in the territorial differences. The key factors can include educational policy and programs, student funding programs, composition of territorial population, access to social and economic resources, and other relevant factors. It would be interesting to examine how the concentration of Aboriginal populations in each territory exerts an influence on PSE participation of the territorial Aboriginal peoples.

Apart from the territorial differences in the higher education amongst Aboriginal peoples, there is inadequate information on the educational differences between Aboriginal subgroups as well as between on- and off- reserve Aboriginal peoples in the North. As revealed in the previous discussions, the First Nations, Métis, and Inuit population are not evenly distributed across the North. Due to different education jurisdictions, Aboriginal peoples living on reserves and those living off reserves are likely to be under the influence of different education and funding policies. A comparative study on the educational differences between the above groups would develop a better understanding of factors that result in the different educational achievements between these groups.

Also, further research on secondary education in the North is needed for understanding the reasons behind the low university attainment of northern Aboriginals compared to that of non-Aboriginals. The large number of northern Aboriginals without a high school diploma indicates that improving high school completion rates is one of the key factors that should be addressed in order to increase PSE participation rates of Aboriginal peoples in the North. Therefore, a more comprehensive and in-depth study on barriers to high school completion faced by northern Aboriginal youth would shed light on social and economic factors that impact their decision in pursuing higher education. Moreover, understanding the outcomes of secondary education in the northern communities is critical to an assessment of school

quality, academic preparedness of high school graduates for PSE, and school characteristics.

In addition, there is a need for studies that examine the interactions of parental education and children's living environment and health conditions, and how they affect the academic achievement of Aboriginal peoples in the North. As outlined in the previous sections, a large number of Aboriginal peoples in the North face a severe housing problem and detrimental health conditions. Further research in this important area is likely to provide insight into the roles played by the level of parental education, home environment, and health conditions in PSE participation of Aboriginal peoples in the three territories.

Additional information is needed on the effects of the following factors on the northern Aboriginal people's participation in postsecondary study: urban versus rural communities, geography (distance to university and college, mode of transportation, access to health care, commuting time to high school, and residential mobility), academic effort, access to information on PSE, employment opportunities in the local area, learning disabilities, peer group influences, juvenile crimes, and teen pregnancy. Detailed data on the above factors will help to better identify barriers to PSE faced by Aboriginal peoples in the North.

To summarize, there is inadequate data and insufficient information on the social, economic, cultural, and geographical factors related to PSE participation of Aboriginal peoples as well as their academic performance in the earlier stages of schooling in the North. A better understanding of barriers to PSE faced by northern Aboriginal peoples would require studies that are supported by longitudinal or cross-sectional surveys. Many of the knowledge gaps noted above could also be approached from different perspectives. Research from various angles would be of great value in enhancing the resulting policy insights and options.

## **7. RECOMMENDATION: A REQUEST FOR PROPOSALS**

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At this point a Request for Proposals (RFP) is the most appropriate recommendation of this study to the Learning Branch of HRSDC for taking the first step towards closing the identified knowledge gaps in barriers to PSE participation faced by Aboriginal peoples in the North. The identified knowledge gaps imply a broad range of the unknown social, economic, and cultural issues related to the low levels of PSE participation of Aboriginal peoples in the North. The inadequate data and information emphasizes the importance of further data collection and in-depth studies on the related issues in order to have a more comprehensive understanding of barriers to PSE faced by the northern Aboriginal youth. Given a comparatively low number of studies on Aboriginal peoples in the North, the wide range of unknown issues related to their higher education, and complexities of conducting research on Aboriginal topics, an RFP would be an attempt to address some of these challenges.

The recommended RFP focuses on the most noticeable characteristics of PSE participation of Aboriginal peoples in Yukon, the NWT, and Nunavut and would disclose factors that contribute to the low levels of higher education of Aboriginal peoples in the three territories. According to the 2006 Census, Aboriginal peoples in Yukon outperformed their counterparts not only in the NWT and Nunavut but also the rest of country regarding the proportion of PSE-degree holders (Statistics Canada, 2006b; Statistics Canada, 2006b; Statistics Canada, 2008). Given the similar geographical, social, and economic environment facing the northerners in the three territories, it would be valuable to determine what led to such a difference in accessing PSE between Aboriginal peoples in the three territories. As discussed in the previous sections, the territorial differences in the student financial assistance programs is one of the most distinguished factors that can exert a significant influence on PSE participation of Aboriginal students in each territory. In light of the impact of financial barriers on PSE participation and the mandate of HRSDC on the student financial assistance, the recommended RFP places an emphasis on investigating how funding policies and programs contribute to the difference in PSE participation between Aboriginal peoples in the three territories.

It is expected that the study evolved from the recommended RFP would provide the current information and an in-depth analysis of the impact of territorial and federal student funding policies and programs on the exceptional differences of PSE participation between Aboriginal peoples in Yukon, the NWT, and Nunavut. The proposed study should contain the following elements:

- Provide an overview of student funding policies in each territory, compare any different approaches to student financial assistance (SFA) between territorial governments, and examine how they affect PSE participation of Aboriginal students in the North.
- Provide an overview of SFA programs and other financial channels for PSE of Aboriginal students in each territory. It would find appropriate data sources and analyze

impacts of different SFA programs and available financial resources on PSE participation of Aboriginal peoples in the three territories. The following questions will be addressed in this section:

- What are the application requirements of SFA programs? How is the accessibility of the SFA information? Who is responsible for distributing the funds? Who is eligible for applying for the funds? Who is not? Why?
  - How many Aboriginal applicants have received the funds? What is the ratio of recipients to applicants generally? What is the amount of average funds received?
  - Are there differences in PSE participation between Aboriginal subgroups in each territory and across the territories? How do they contribute to the territorial differences in PSE participation between Aboriginal peoples in general? What kind of role do the relevant SFA programs play in leading up to those differences?
  - What are the strengths and weaknesses of SFA programs for Aboriginal students in the territories? Are there any concerns regarding the accountability and transparency of the programs? How do such concerns affect the distribution of student funding?
  - What are the differences in SFA programs for Aboriginal students between the territories? How do the differences impact PSE participation of Aboriginal students in each territory?
  - To what extent do the funds meet the needs of Aboriginal students for covering PSE tuition fees and related costs? What are the alternative channels of financial aids for Aboriginal students who are unable to obtain sufficient funding from the territorial SFA programs?
  - What kind of role do the federal SFA programs, such as the CSLP and PSSSP, play in PSE participation by Aboriginal students in the North? How do they contribute to the difference in PSE participation between Aboriginal students in Yukon and the other two territories?
- Provide policy implications

The above mentioned elements will examine the relationship between the territorial funding policies and SFA programs and the differences in PSE participation between Aboriginal students in the three territories. When it is necessary, the study can include other elements into the analysis for the purpose of providing a more comprehensive probe. This would result in increased insights into SFA issues related to higher education of northern Aboriginals.

The research topic of the recommended RFP indicates that both qualitative and quantitative methodologies would need to be applied to the study. Although the decision in choosing the specific research methodology would be in the hands of the researcher(s) whose proposal wins the contract, the complexities of researching Aboriginal issues should be noted. Considering that Aboriginal peoples hold jurisdiction over their culture, knowledge, and heritage (Ermine, Sinclair & Jeffery, 2004), the researcher(s) must have sufficient knowledge or experience in researching Aboriginal issues and follow relevant ethical guidelines throughout the entire course of the study. If there is a first-hand data collection involved, it is particularly indispensable for the researchers to conduct the study within the guidelines. First of all, the researcher(s) must obtain the consent of the government, the bands, the communities and the Aboriginal peoples involved in the study with regards to data and information collection before the start of the study and whenever necessary thereafter (University of Victoria, 2003). Secondly, the researcher(s) must acknowledge and protect “the rights, interests and sensitivities” of the Aboriginal peoples involved in the study (University of Victoria, 2003, p.6). The Aboriginal participants of the study hold a right to control the information they provide and the research results and “enjoy the benefits that might result from research” (University of Victoria, 2003, p.5 & 6).

Furthermore, it is important that the researcher(s) should consult the expertise of the Aboriginal individuals or groups when designing the research protocol and determining the appropriate methodology (University of Victoria, 2003). For instance, due to cross-culture considerations, the researcher(s) should design survey and/or conduct interview in consultation with people who have a better knowledge of the involved Aboriginal peoples and communities. Grenier (1998) suggests that “selecting appropriate community researchers is critical to the success of any study” (p.32). The community researchers have a better understanding of the local culture and skills for conducting research in their own cultural context (Grenier, 1998). Last but not least, the researcher(s) should acknowledge the contribution of the involved Aboriginal individuals, communities, and bands in the final research report, and “the findings of the research should be presented in a format that is readily understandable and accessible to those who provide the basis for the research findings” (University of Victoria, 2003, p.9). Overall, the researcher(s) should be aware of the issues related to research ethics and follow the relevant protocols for conducting research in an Aboriginal context at every stage of the study.

To summarize, the recommended RFP would be an initial attempt of the Learning Branch, HRSDC to explore barriers to PSE faced by Aboriginal peoples in the North. Although it is unlikely that the study would be able to close all of the identified knowledge gaps, its findings would be likely to disclose some financial challenges encountered by Aboriginal students in the North. Considering the relatively low number of research studies on Aboriginal issues in the North due, in part, to the geographical challenges of conducting research in the North, the proposed study would contribute to a better understanding of higher education issues in the area and provide implications, not only for policy makers, but for researchers that have an interest in the educational issues in the North. It is expected that the study would set the stage for more in-depth studies on Aboriginal issues in the North.

## 8. CONCLUSION

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The findings of the literature review suggest that PSE participation gap between Aboriginal and non-Aboriginal peoples is associated with differences in many areas, including parental education level, family income, geography, academic performance, culture, language, home environment, personal factors, and school characteristics. Compared with non-Aboriginal peoples, Aboriginal peoples continue to face a series of social and economic disadvantages and exclusion. While the literature review identifies barriers to PSE faced by Aboriginal peoples across the Commonwealth nations, it also implies the need for more exploration on the applicability and generalization of the identified barriers to a specific group.

In the case of knowledge about the barriers to PSE faced by northern Aboriginal peoples, significant gaps exist. Compared to Aboriginal peoples in southern Canada, those in the North have been less studied in the available research. An overview of what is known about social, economic, cultural, and geographical factors and how they relate to educational attainment help to disclose potential barriers to Aboriginal people's access to higher education in the North. Identifying specific barriers requires the support of additional data and information on the Northerners. As a result, filling the knowledge gaps requires further data collections and more in-depth studies focusing on the socio-economic well-being of northern Aboriginal peoples.

Finally, this study recommends an RFP which aims to provide insight into financial factors leading to the differential PSE achievements of Aboriginal peoples in the three territories and contribute to a better understanding of how to close the identified knowledge gaps. The proposed study would explore the impact of territorial funding policies, SFA programs, and other available financial aid resources on the differences in PSE participation between Aboriginal peoples in Yukon, the NWT, and Nunavut. It is expected that the study would conduct a comparative analysis of student funding policies and programs for Aboriginal peoples in the three territories and examine whether the funding policies and programs are the key factor that led up to the high PSE attendance rates of Aboriginal students in Yukon and the lower PSE achievements of those in the NWT and Nunavut. The findings of the proposed study would be valuable for future policy making and SFA program developing. However, the recommended study alone cannot provide sufficient information on all barriers to PSE participation faced by Aboriginal peoples in the North. Future actions in this area can include supporting quantitative and qualitative research on Aboriginal secondary education in the North and including Aboriginal population in the data collection of relevant surveys, such as the GSS and the YITS.

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# **APPENDIX: A REQUEST FOR PROPOSALS**

## **1. Project Title**

Exploring the impact of funding policies and student financial assistance (SFA) programs for Aboriginal peoples in the North on the territorial differences in post-secondary education (PSE) participation between Aboriginal peoples.

## **2. Background**

A significant difference exists in PSE participation between Aboriginal peoples in Yukon, the Northwest Territories (NWT), and Nunavut. According to the 2006 Census, Yukon has the highest rate of PSE degree holders, not only of the three territories, but across the country (Statistics Canada, 2008). As for educational achievement of Aboriginal adults aged 25 and older, Yukon also shows better achievements in both PSE and university participation than the NWT and Nunavut (Statistics Canada, 2006b). The difference is more significant in the university participation between Aboriginal peoples in Yukon and Nunavut (8% vs. 4%) (Statistics Canada, 2006b). Given the similar geographical, social and economic environment of the northerners in the three territories, it is valuable to find out the key factors that led to such a difference in accessing PSE between Aboriginal peoples in the three territories.

It is noticeable that Aboriginal students in the North can face different funding policies and student financial assistance (SFA) programs in light of the Aboriginal subgroup they belong to and the territory they reside. A number of Aboriginal peoples in the North have been excluded from some main SFA programs: the largest federal support program – the Postsecondary Student Support Program (PSSSP) – does not provide financial assistance for Métis and non-status Indians (INAC, 2010a); the NWT and Nunavut do not participate in the Canada Student Loans Program (CSLP) (HRSDC, 2009). Given the different composition of Aboriginal populations and the unlike funding programs for Aboriginal students in the three territories, a comparison of territorial funding policies and SFA programs between Yukon, the NWT, and Nunavut can be the first step towards exploring factors leading to the territorial differences in PSE participation between Aboriginal peoples and towards closing the identified knowledge gaps in barriers to PSE participation faced by Aboriginal peoples in the North.

The Learning Branch, HRSDC conducts research on both financial, and to a lesser extent, non-financial barriers to PSE faced by Aboriginal students. The goal is to produce a new publication to discuss PSE participation difference between Aboriginal peoples in Yukon, the NWT, and Nunavut in light of available financial assistance for Aboriginal students. The final report will provide a better understanding of factors contributing to PSE participation difference between Aboriginal peoples in the North.

### **3. Scope of Work**

#### *3.1. Project description*

The goal of this project is to produce an original publication that provides current information on the SFA factors leading to the difference of PSE participation between Aboriginal peoples in Yukon, the NWT and Nunavut.

The contractor will write a report that provides an in-depth analysis of the data and information collected and an explanation of its implications. The final report should include the following four elements:

1. Provide an overview of student funding policies in each territory as they pertain to Aboriginal PSE, compare any different approaches to student financial assistance (SFA) between territorial governments, and examine how they affect PSE participation of Aboriginal students in the North
2. Provide an overview of SFA programs and other financial channels for Aboriginal students in each territory. It would find appropriate data sources and analyze impacts of different SFA programs and available financial resources on PSE participation of Aboriginal peoples in the three territories. The following questions will be addressed in this section:
  - What are the application requirements of SFA programs? Who is responsible for distributing the funds? Who is eligible for applying for the funds? Who is not? Why?
  - How many Aboriginal applicants have received the funds? What is the ratio of recipients to applicants generally? What is the amount of average funds received?
  - Are there differences in PSE participation between Aboriginal subgroups in each territory and across the territories? How do they contribute to the territorial differences in PSE participation between Aboriginal peoples in general? What kind of role do the relevant SFA programs play in leading up to those differences?
  - What are the strengths and weaknesses of SFA programs for Aboriginal students in the territories? Are there any concerns regarding the accountability and transparency of the programs? How do such concerns affect the distribution of student funding?
  - To what extent do the funds meet the needs of Aboriginal students for covering PSE tuition fees and related costs? What are the alternative channels of financial aids for Aboriginal students who are unable to obtain sufficient funding from the territorial SFA programs?
  - What kind of role do the federal SFA programs, such as the CSLP and PSSSP, play in PSE participation by Aboriginal students in the North? How do they

contribute to the difference in PSE participation between Aboriginal students in Yukon and the other two territories?

3. Provide policy implications.

### 3.2. Tasks

The contractor will be responsible for the following:

- Plan the project based on the specifications provided by the Project Authority;
- Manage the overall project;
- Take responsibility in getting all necessary approvals from relevant authorities to conduct this study;
- Secure access to data held by external partners (for example, Statistics Canada);
- Collect data from other sources of information throughout the territories and Canada;
- Complete a detailed quantitative analysis of the data obtained from related federal departments, territorial government, and other organizations;
- Conduct comparative analysis of data collected and information gathered on the funding policies and SFA programs in the three territories;
- Provide a draft report based on the data collected and analyses conducted;
- Conduct peer reviews of the draft report to ensure the quality of the final report;
- Provide a final report in English that addresses the comments and feedback received from the project authority and the peer reviewer (s), in both electronic form and in hard copy (1 unbound and 5 bound copies);
- Present a summary of the final results in both official languages to the Learning Branch, HRSDC in the National Capital Region using Microsoft PowerPoint.

### 3.3. Deliverables

The following is a schedule for deliverables to be submitted to the Project Authority.

<b>Deliverable</b>	<b>Completion Date</b>
1. Submission of first draft of report <ul style="list-style-type: none"> <li>• Collect all relevant data to produce report, and provide tables of collected data that will be used in the final report</li> <li>• Complete the overview of funding policies and SFA programs of each territory pertaining to Aboriginal</li> </ul>	

<p>PSE, and provide draft chapter</p> <ul style="list-style-type: none"> <li>• Complete analysis of collected information on the impact of territorial funding policies and SFA programs on PSE participation of Aboriginal students in each territory, and provide draft chapter</li> <li>• Discuss implications for policymakers, and provide draft chapter</li> </ul>	
2. Peer Review of report	
3. Submission of final report	
4. Presentation of report to the Learning Branch, HRSDC, in both official languages	

#### **4. Budget**

The maximum budget allocated for this project is \$300,000 excluding GST/HST.

If applicable an additional amount of up to \$5,000 (including GST/HST) will be available for travel and accommodation for the presentation to the Learning Branch, HRSDC in the National Capital Region. The Contractor will be paid for pre-authorized reasonable and proper travel and living expenses incurred by personnel directly engaged in the performance of the work, supported by appropriate receipts and calculated in accordance with the current Treasury Board Guidelines on Travel and Living Expenses Web Site: [http://www.tbs-sct.gc.ca/pubs\\_pol/hrpubs/TBM\\_113/menu-travel-voyage\\_e.asp](http://www.tbs-sct.gc.ca/pubs_pol/hrpubs/TBM_113/menu-travel-voyage_e.asp) without allowance thereon for overhead or profit. All payments are subject to government audit.

#### **5. Period of Contract**

The contract period is from the date that the contract is awarded to [Date].

#### **6. Collection and Use of Personal Information**

The collection and use of any personal information for this research project must be approved under the relevant guidelines of the Human Ethics in Research Policy.

#### **7. Intellectual Property**

The Crown has determined that any intellectual property arising from the performance of the work under any resulting contract will vest in Canada, on the following grounds:

- The main purpose of the contract, or of the deliverables contracted for, is to generate knowledge and information for public dissemination.

HRSDC reserves the right to publish the document (in paper format and/or on the Internet) as part of a series of papers commissioned through HRSDC. The contractor cannot publish

articles or papers based on this work without the written consent of the Learning Branch,  
HRSDC.