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Indigenous Educational Attainment in Canada

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Indigenous Educational Attainment in Canada

Abstract
In this article, the educational attainment of Indigenous peoples of working age (25 to 64 years) in Canada is examined. This diverse population has typically had lower educational levels than the general population in Canada. Results indicate that, while on the positive side there are a greater number of highly educated Indigenous peoples, there is also a continuing gap between Indigenous and non-Indigenous peoples. Data also indicate that the proportion with less than high school education declined, which corresponds with a rise of those with a PSE; the reverse was true in 1996. Despite these gains, however, the large and increasing absolute numbers of those without a high school education is alarming. There are intra-Indigenous differences: First Nations with Indian Status and the Inuit are not doing as well as non-Status and Métis peoples. Comparisons between the Indigenous and non-Indigenous populations reveal that the documented gap in post-secondary educational attainment is at best stagnant. Out of the data analysis, and based on the history of educational policy, we comment on the current reform proposed by the Government of Canada, announced in February of 2014, and propose several policy recommendations to move educational attainment forward.

Keywords
Indigenous, Aboriginal, education, educational attainment, Canada

Acknowledgments
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Indigenous Educational Attainment in Canada

Indigenous peoples have typically had lower educational attainment levels compared to the non-Indigenous population in Canada (Spence & White, 2009). Research indicates that low levels of education in specific populations are correlated with factors such as socio-economic status (Eagle, 1989), ethnicity (Gang & Zimmermann, 2000), geography (Garner & Raudenbush, 1991), and parental educational attainment (Krein & Beller, 1988). Several studies have indicated that low educational attainment levels among Indigenous peoples in Canada are also tied to colonialism (Miller, 1996). With an increasing number of Indigenous students at post-secondary institutions, some people feel more optimistic about the direction of attainment levels. Higher educational attainment will likely enhance individual labour market opportunities and possibly benefit Indigenous communities if educated individuals return home. In this article, recent attainment is examined in-depth. The objectives of the study are the following:

(a) To examine the most up-to-date data available for Indigenous educational attainment in order to determine whether there has been adequate progress since the 1996 Census in Canada. This assessment involves an examination of intra-Indigenous trends in educational attainment and a comparison between Indigenous and non-Indigenous populations in Canada across high school and post-secondary education (PSE).

(b) To develop some preliminary policy assessments based on the data analysis. Cursory comments are made on the current reform proposed by the federal government of Canada announced in February of 2014.

For international and Canadian readers alike, it is important to present a brief history of Indigenous educational policy and practice in Canada first.

A Brief History of Colonial Education Policy in Canada: First Contact to 1996

Researchers and Indigenous peoples point to the history of colonialism and the approaches taken to education as necessary context in order to understand the present educational attainment of Indigenous peoples in Canada (see for example Miller, 1996). According to Peters (2013), the outcome and legacy of this history were:

… [P]overty, marginalization, and much despair. Deprived of an economic base, family relationships disrupted, and Indigenous ways of knowing denigrated, colonialism has taken an exacting toll on First Nations communities. First Nations have relatively high incarceration rates, infant mortality rates, and high school drop-out rates, higher rates of smoking, alcohol, and drug abuse, and have a disproportionate burden of ill-health (First Nations Information Governance Centre [FNIGC], 2012; National Collaborating Centre for Aboriginal Health [NCCAH], 2012; Perrault, 2009). (p. 43)

In order to explain and understand the impact of the past on present events, we begin at the earliest period when these processes began, at the beginning of the 17th century.
France originally colonized Canada. The first schooling systems, dating to the early 17th century, had the goal of “Francization” of Indigenous peoples to convert them to Christianity (Jaenen, 1986). As White and Peters (2009) pointed out, the Récollets (Franciscan friars) trained small groups of boys, whom they hoped would lead the transformation in belief systems within communities.

In 1632, the Jesuits were given control of educating the Indigenous population. They decided first to set up community based schooling (Magnuson, 1992) but later abandoned this approach for boarding schools (Jaenon, 1986). These efforts were very unsuccessful due to “tenacity of the Indigenous cultures” (Magnuson, 1992, p. 61). By the beginning of the 18th century, the schools were largely abandoned (Miller, 1996). In addition to Indigenous resistance to converting to Christianity and French culture, part of the reason for school closure lay in the on-going politics and military situation in North America. The French began to realize that assimilation did not serve their colonial interests because both fur traders and soldiers found the Indigenous peoples valuable as partners in the fur trade and strong military allies (White & Peters, 2009).

The mindset that Indigenous peoples could be allies without being made into “Europeans” was also important in British thinking in North America in early periods. Prior to the War of 1812, the British were not very concerned with assimilating Indigenous peoples per se. They were more interested in the utility of Indigenous peoples as military partners against both the French and the Americans. However, the policy shifted after the War of 1812 when declining hostilities led to a British focus on rapid settlement of what is now Canada. A shift in thinking occurred whereby Indigenous peoples were no longer considered allies but impediments. “In the words of a former secretary of state for the colonies, ‘reclaiming the Indians from a state of barbarism and introducing amongst them the industrious and peaceful habits of civilized life’ became the order of the day” (cited in Wilson, 1986, p. 66).

This policy shift ushered in a dark time in Canadian history when the industrial boarding school system was launched. The system was designed to enhance the integration of Indigenous peoples into British North American society. In the same period, efforts were made to settle Indigenous populations on reserve land closer to White settlements. The objectives were to get Indigenous peoples who were nomadic to quit moving and to make Indigenous peoples who already had fixed communities to adopt Western lifestyles. The reserves, however, proved to be a failure after many of the first experiments were unable to retain a sizable Indigenous population (Miller, 1996).

From the 1840s to Canadian Confederation in 1867 the emphasis was on building “manual labour schools” that promoted Christianity, espoused general assimilation, and taught Indigenous peoples practical skills that fit the British view of development. By the 1860s, reports concluded that these too were very unsuccessful (Miller, 1996).

From Confederation onward, the Constitution of Canada ceded control of Indigenous Affairs to the federal government. In the fifty years from 1871 to 1921, the Crown entered into treaties with many Indigenous peoples, known as Canada’s First Nations. These treaties were designed by the State to facilitate settlement, resource development, and agricultural development in Ontario, the Prairie Provinces in the west (Manitoba, Saskatchewan, and Alberta) and the territories of the northern regions.
The arrangements and the treaties that came before laid a framework for Crown relations with Indigenous peoples. In these treaties, the Crown promised education; however, it is not clear that what the Crown meant by this was understood in the same way by the many Indigenous peoples who signed the agreement (White, Maxim, & Beavon, 2003). The first education efforts were day schools, but soon the government began to look south to the United States for a model of forced residential schooling.

The Davin report of 1879 recommended that residential institutions be established in Western Canada (Haig-Brown, 1988). The acceptance of this proposal marked a massive growth in the residential schools that were run by various churches. White and Peters (2009) noted, “the Indian Act was amended in 1894 to make school attendance at a day, boarding, or industrial school compulsory for ten months of the year for all Indigenous children over age six” (p. 17). Through residential schools, the State aimed to “take the Indian out of the child.” The consequence included a long-term negative impact on educational attainment that is still witnessed today.

By 1910, reports made it clear that the schools were taking a significant toll on students' health. In many areas, 25% of the student populations were suffering from tuberculosis, and even the deputy superintendent of Indian Affairs indicated that less than half the students lived long enough to benefit from their education (White & Peters, 2009). Miller (1996) argued that, at this point in time, the Canadian government shifted its policy from education aimed at assimilating the Indigenous peoples to one of preparing them to live on their own reserves; in other words, segregation.

An examination of the policy and actions from 1910 up to World War II illustrates several key problems. First, the curriculum was always much less advanced than that of provincial schools. Students received less than one half day in the classroom and the rest was spent in manual labour. Teachers often had minimal training and the churches used clergy as principals in the schools (Chalmers, 1972). These circumstances led to a situation whereby “few students progressed past the primary grades regardless of how many years were spent in school” (White & Peters, 2009, p. 18). This was far worse than the conditions for the settler population (Barman, Hébert, & McCaskill, 1986, p. 18). Secondly, White and Peters (2009) noted that:

...for many First Nations students residential schools were places of emotional, physical, and sexual abuse. Children were taken, often forcefully, from their homes, had their hair cut, were clothed in European style of dress, and were placed in unsanitary living conditions. Students were taught to be ashamed of their culture and to see themselves and their people as inferior and immoral, often facing punishment if they spoke their native language (Miller, 1996). Physical abuse was also commonplace in residential schools. (p. 19)

This history is being investigated by the Truth and Reconciliation Commission of Canada. These conditions were not isolated events. Chrisjohn and Belleau (1991) estimated that in some schools 48%

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1 From the 17th century, protocols and treaties were signed in different areas. The most expansive period for treaty making was 1871 to 1921 when the so-called “numbered treaties” were consummated. These were the treaties that enshrined promises of state supported education.

2 In Canada, the Constitution gives the provinces jurisdiction over education except for Registered Indians or First Nations and Inuit living on reserve.

3 For more information on the Commission please see http://www.trc.ca/websites/trcinstitution/index.php?p=3
to 70% of residential school students were sexually abused (see also Milloy, 1999). Many researchers have documented similar conditions (see Haig-Brown, 1988; Knockwood, 1992; Miller, 1996).

The 1940s and 1950s marked another re-evaluation of government education policy. The whole system was severely under-resourced given the Depression of the 1930s and WWII. Many Indigenous veterans returning from Europe were not prepared to accept the poor treatment given to their peoples (Miller, 2000). A major government committee study concluded that residential schools were not succeeding and should be shut down and that the students should be integrated into the provincial systems (Bear Nicholas, 2001). In less than 10 years, 25% of Aboriginal students were attending provincial institutions (Barman et al., 1986). However, the shift from residential schools was academically unsuccessful. In 1967, the federal government reported that dropout rates from high school were approaching 94%. The dropout rate for non-Indigenous was less than 15% (Canada Indian Affairs Branch, 1967).

Despite the “decision” to move away from residential schools, the system was far from shutdown even by the mid-1960s. However, public attitudes were shifting. There were liberation movements in the developing world, civil rights movements in the United States, and major government investigations that all contributed to a change in terms of public acceptance for discrimination (Miller, 1996). Two reports published in 1967, Caldwell’s (1967) *Indian Residential Schools* and Hawthorn’s (1967) *A Survey of the Contemporary Indians of Canada* were critical of the residential school system. According to Milloy (1999), the State opted to endorse the reports. Most schools shut their doors in the following decade.

Between 1967 and the 1990s, there was a period of public debate. Indigenous national organizations, like the National Indian Brotherhood, issued sharp rebukes to government proposals and called for Indian control of Indian education. This position was “inspired partly by events such as the 1970 Blue Quills Residential School sit-in, in which the community successfully resisted the school’s closure, demanding it remain open under community control” (White & Peters, 2009, p. 23). The government had already steered away from residential schooling. With no clear policy direction to fall back on, the government accepted the Indian Brotherhood position of Indian control. However, this acceptance did not mean a major shift in how things were done. As White and Peters (2009) reported:

> After accepting *Indian Control of Indian Education* as the national policy statement on Aboriginal education, the government began to devolve some administrative control of schools to First Nations communities. In most cases, the devolution of responsibility to First Nations communities resulted in very little actual control over the content and delivery of education. (p. 23)

In different provinces change was developing, albeit slowly. In 1988, the Assembly of First Nations (AFN, 1988) released *Tradition and Education: Towards a Vision of the Future*, which reiterated the concepts of Indigenous control, arguing that the government should devolve control to the Indigenous communities. The AFN argued that in practice the communities (First Nations) should acquire controls similar to those of the provinces as set out by the Canadian Constitution. This was a call for Aboriginal peoples’ inherent right to self-government to be the basis for control over education (Abele, Dittubrner & Graham, 2000). As White and Peters (2009) reported, “It was argued that a Constitutional amendment was needed to formally recognize and affirm this inherent right, or, at the very least, federal legislation that would ensure future dealings between First Nations and the federal government were on
a government-to-government basis” (p. 24). There was a demand for proper funding “to create a new administrative structure, establish national and regional educational institutions, formulate long-term education plans, [and] research First Nations learning styles and to develop new curriculum” (White & Peters, 2009, p. 24).

Since 1988, the landscape of change has become complex. New treaties have brought change in some provinces (e.g., the Nishga treaty in British Columbia). More progressive provincial regimes have developed or are developing new curricula. At the same time, major finances for Indigenous educational systems have languished (AFN, 2010).

The Royal Commission on Aboriginal Peoples (RCAP, 1996) was a momentous undertaking in the mid-1990s. The RCAP had extensive involvement of Indigenous peoples themselves in research and leadership positions. The RCAP recommended that federal, provincial, and territorial levels of government recognize education as a core to self-government and necessary to build Indigenous capacity to run their own affairs. Many of the groundbreaking policy suggestions from the RCAP have not yet been implemented.

The positive changes have led some people to hold hope that educational attainment would improve. That optimism is examined in this article. Our data analysis begins where this “history” leaves off, that is after RCAP in 1996. In the beginning of this introduction, it was stated that there are many things that are correlated with educational attainment. The history described above has taken a terrible toll and has created conditions where educational attainment has been stifled. That said, it has not destroyed the Indigenous peoples in Canada nor has it destroyed their drive for improving the educational process in the country. Indigenous languages, cultures, and knowledge(s) have not been obliterated although damage has been done. The call for control of Indigenous education by Indigenous peoples has actually grown (AFN, 1988, 2010; Castellano, 2000; National Indian Brotherhood, 1972; RCAP, 1996).

In the current article, the data on attainment between 1996 and the present are examined. In the concluding sections, the current policy debate on Indigenous education will be discussed.

**Methods**

Data used in this article come from the 1996, 2001, and 2006 Censuses and the 2011 National Household Survey (NHS) of Canada. Publicly available data sets were downloaded that included variables relating to non-Aboriginal and Aboriginal populations, Registered Indian or Treaty Status, on or off reserve status, and Aboriginal identity (First Nations, Inuit, Métis), as well as educational attainment, geographic location, and age group.

Highest educational attainment is defined as a person’s “most advanced certificate, diploma, or degree” comprised of (a) less than high school, (b) high school, and (c) post-secondary education (PSE). PSE is further broken down into the following categories: apprenticeship or trades, college or other non-university (herein referred to as college), university below the bachelor level, and university at or above bachelor level (see Statistics Canada, 2011b). In each data set, there were additional categories that complicate the presumed general hierarchy (high school graduation, trades, college, and university). In order to avoid over-estimating high school or PSE attainment, we combined certain categories. In the 1996 Census data set, categories of "some apprenticeship," "some college," and "some university" were
collapsed into the high school educational attainment category because no diploma, certificate, or degree was obtained at the PSE level. Similarly, the "some high school" category was grouped with the "less than high school" category. The 2001 to 2006 Censuses and 2011 NHS had an option to examine whether a high school diploma was attained in addition to the highest education achieved. Those who had PSE yet no high school diploma are considered to have less than high school education. In the labour market, potential employees typically have to show their resumes or fill in documentation about their educational achievements; employers will presumably consider those without high school completion to have a relatively lower educational attainment compared to high school graduates.

Limitations of NHS

The Indigenous population in Canada is a very diverse group and aggregate figures can obscure very different attributes. We have attempted to capture some of this diversity by reporting for the on and off reserve populations and by identity group: Métis, First Nations (Status and non-Status), and Inuit. Given the voluntary nature of the NHS, there are inherently more potential groups and geographical areas that may be under enumerated. Therefore, the finer the analysis we do using the NHS data, the more likely there will be “under enumeration impacts” on the findings. The most reliable situation is to have a stable methodology over time that has similar response patterns (like the mandatory long form census).

Statistics Canada (2011a) reported that approximately 75.3% of the census subdivisions in Canada were included in the releases. This is lower than the previous Census in 2006. The non-response bias is likely to impact Indigenous estimates generally and in rural centers particularly. Saskatchewan was the most under-reported province and has a high proportion of Indigenous peoples.

In the 2011 NHS, there were a total of 36 Indian reserves and Indian settlements that were incompletely enumerated. According to Statistics Canada (2011b), estimates associated with the on/off reserve variable are more affected than other variables because of the incomplete enumeration of these Indian reserves and settlements.

Results

The sheer number of post-secondary Indigenous graduates has increased tremendously over the past 15 years. From 1996 to 2011, there was a total increase of 183,170 Indigenous peoples between the ages 25 to 64 years who attained PSE. The change for each type of PSE by census year during this time period is documented in Table 1. Between 2006 and 2011, there were 21,120 new college graduates and 23,085 new university graduates (at or above bachelor level). For the most part, steady increases have been made at these educational levels over time. Conversely, apprenticeship or trades numbers are in decline.

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4 This is an example of how researchers have to be careful to investigate the specificities of Indigenous communities. Aboriginal Affairs Canada (AANDC) was in the habit of requiring Indigenous persons who were participating in certain transfer programs to enroll in upgrading seminars or short certificate programs. People taking these certificates would often report their engagement as PSE, thereby inflating the PSE numbers.

5 We utilized the 25- to 64-year-old population for two reasons: (a) the 15 and over age population inflates the number of people without high school completion, and (b) the 65 and over age groups are much more likely not to be employed compared to 25 to 64 year olds.
The drop in the 2006 to 2011 period reverses gains made in the 2001 to 2006 period. Possibly, this decline could indicate that Indigenous post-secondary students are choosing other paths at colleges and universities instead of participating in apprenticeship or trades. It is also possible that fewer apprenticeship opportunities were available for interested students following the 2008 recession.

Table 1. Indigenous Population PSE Attainment, 25 to 64 years, 1996 to 2011, Absolute Numbers

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<tbody>
<tr>
<td>Apprenticeship or trades</td>
<td>16,000</td>
<td>69,260</td>
<td>80,060</td>
<td>67,045</td>
<td>51,045</td>
</tr>
<tr>
<td>College or other non-university</td>
<td>66,935</td>
<td>66,795</td>
<td>103,905</td>
<td>125,025</td>
<td>58,090</td>
</tr>
<tr>
<td>University below bachelor level</td>
<td>n/a</td>
<td>8,125</td>
<td>20,050</td>
<td>23,605</td>
<td>15,480</td>
</tr>
<tr>
<td>University at bachelor or above</td>
<td>15,660</td>
<td>26,340</td>
<td>43,010</td>
<td>66,095</td>
<td>50,435</td>
</tr>
<tr>
<td>Total post-secondary education</td>
<td>98,595</td>
<td>170,520</td>
<td>247,025</td>
<td>281,765</td>
<td>183,170</td>
</tr>
<tr>
<td>Total Indigenous population</td>
<td>346,485</td>
<td>443,600</td>
<td>555,420</td>
<td>671,380</td>
<td>324,895</td>
</tr>
</tbody>
</table>

Note. Sources: Statistics Canada (1996, 2001a, 2006b, 2011a)

* The increase for this PSE type is for the 2001–2011 time period because data are not available for 1996.

The increased PSE attainment among the Indigenous population is a success. A real roadblock to a greater number of PSE graduates is low educational attainment. Table 2 shows the rising numbers over time of Indigenous peoples with no high school diploma or equivalent; the number increased by 80,165 in the 1996 to 2011 period. The number of high school graduates with no PSE completion also rose; however, this group is considerably smaller than its less educated counterpart. The Indigenous population in Canada is relatively young (Statistics Canada, 2011a), which means the numbers of those who are not high school or post-secondary graduates will likely rise if trends remain unchanged. A concern, then, is high school completion. Mendelson (2006) reported, "the failure to complete high school explains 88% of the variation in PSE" (p. 31). Increasing the number of high school graduates increases the number of PSE graduates (Mendelson, 2006). Accordingly, high school completion is an important key to moving forward with regard to improving Indigenous PSE attainment.

* The variables less than high school and PSE completion have a strong negative correlation ($R^2 = 0.8782$) (Mendelson, 2006).
Table 2. Indigenous Population High School with No PSE and High School Non-Completion, 25 to 64 years, 1996 to 2011 absolute numbers, 2016 to 2021 estimated numbers¹

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</thead>
<tbody>
<tr>
<td>Less than high school</td>
<td>156,605</td>
<td>171,710</td>
<td>189,395</td>
<td>236,770</td>
<td>80,165</td>
<td>253,165</td>
<td>278,983</td>
</tr>
<tr>
<td>High school</td>
<td>91,275</td>
<td>101,355</td>
<td>118,960</td>
<td>152,840</td>
<td>61,565</td>
<td>166,683</td>
<td>186,913</td>
</tr>
</tbody>
</table>

Note. Sources: Statistics Canada (1996, 2001a, 2006b, 2011a). In order to make the projections for 2016 and 2021, we assume that fertility and mortality rates for the Indigenous population remain at current levels and there are no major shifts in general economic or social conditions.

²Less than high school trend line: slope \( a = 25,818 \), x intercept = 124,075, \( r^2 = 0.9182 \)

High school only trend line: slope \( a = 20,230 \), x intercept = 65,533, \( r^2 = 0.9336 \)

In Canada’s labour market, PSE attainment is critical for gainful employment. Unemployment rates⁷ drop with each increasing level of higher education. Among the Indigenous population, the unemployment rate was a high 23.3% for those who did not complete high school; it fell to 11.4% for those with high school only, and then to 9.3% for those with PSE (Statistics Canada, 2011b). We estimate that 278,983 Indigenous peoples (25-64 years) will not have a high school education in 2021. Given the economic outcomes associated with higher education, this number is very high. We agree with Mendelson (2006) but also note that there are important considerations in terms of improving high school graduation rates. As noted earlier in this article, some are resources, curriculum, social capital and normative issues, some relate to the policy and practice bred by colonialism, and still others relate to the lack of economic opportunity seen by Indigenous youth that dissuade them from seeking credentials.

The Indigenous population is a heterogeneous group. It is not surprising then, that some groups fare better than others. Differences within the Indigenous population of Canada are discussed next.

Geographic Location

As noted earlier, the federal government in Canada has jurisdiction over Indigenous education. Yet, attainment is disproportionate across provinces and territories, as seen in Figure 1. Geographic locations are rank ordered according to the proportion of PSE attainment. The top seven provinces (Nova Scotia [NS], Newfoundland [NL], Ontario [ON], Quebec [QUE], New Brunswick [NB], Prince Edward Island [PEI], and British Columbia [BC]) have a higher proportion of PSE than “less than high school” level of education. For example, among the Indigenous population in Nova Scotia, 53% possess a PSE and 26% have not completed high school. Reading down the provinces on the vertical axis of Figure 1, this finding stops at Yukon where the proportion of non-high school completion and PSE attainment is

⁷The unemployment rate is the number of unemployed individuals aged 15 and over as a percentage of the labour force.
The pattern for the remaining provinces and territories is a higher proportion of "less than high school" education than PSE. This makes a useful benchmark for judging where the problems are most acute and where we might find positive approaches that are working.

The most alarming difference is Nunavut where 73% of the Indigenous population has less than a high school education and 15% has a PSE. A notable demographic trend in Canada is that the Northwest Territories and the Prairie Provinces typically have the highest proportions of Indigenous peoples in their populations whereas, in terms of absolute numbers, Ontario has the largest Indigenous population (Statistics Canada, 2006a). However, the Indigenous populations of the Territories and Prairies have lower educational attainment. In fact, they have the lowest provincial rates of high school completion with higher proportions of non-high school completion than PSE attainment. British Columbia stands out as a more successful Western province; two-thirds of its Indigenous population have at least a high school education. This province has 130 First Nations community schools, is engaged in defining new treaties and has well integrated the public and Indigenous run schools (First Nations Schools Association, 2014). At the other end of Canada, we see better educational attainment. Another more successful area of the country is Nova Scotia where the self-governing educational authorities of Mi’kmaw communities of the province reported high school completion rates of 88% in the 2012 to 2013 school year (Mi’kmaw Kina’matnewey, 2014). This number is well above the national average for Indigenous students and is comparable to the average for the general population of Canada.
In Canada, recent job creation has been higher in Alberta and Saskatchewan (Burleton, Gulati, McDonald, & Scarfone, 2013). However, these provinces rank relatively poorly with regard to Indigenous educational attainment. If PSE attainment is presumed to make individuals labour market ready, there is a geographical mismatch between a lesser trained Indigenous population and a very hot job market. Possibly, economic development projects are not localized in Indigenous communities.

Identity Group, Status, On or Off Reserve

Differences within the Indigenous population of Canada also emerge by the identity group to which one belongs and whether one lives “on reserve” (in a First Nations designated community). Highest educational attainment over time for First Nations (North American Indian), Inuit, Métis, Status Indian and non-Status Indian, and peoples living on or off reserve is shown in Table 3. One may expect that over the past 15 years, the percentages of high school non-completions would decline and post-secondary attainment would increase. This is not the case for all identity and geographic groups. This trend was observed for Métis, off reserve, non-Status, and First Nations peoples. These particular Indigenous groups have continuously had higher PSE attainment compared to Indigenous peoples living on reserve, Status Indians, or Inuit peoples; this difference is clear in Figure 2. In 1996, all seven of these groups had roughly the same proportion of PSE attainment (range 24-31%). Fifteen years later, Métis and off reserve peoples more than doubled their respective post-secondary proportions. For example, Métis PSE attainment numbers changed from 30,435 to 117,015 — a growth of 285%. Contributing to this growth is the great rise in high school completions. As stated earlier, an increase in high school completions will increase the number of PSE graduates.

This point in time appears to be a turning point for First Nations peoples. Although this population follows the higher education trend previously noted, in 2011, the proportions of those without a high school education and those with a PSE are about the same (40% and 38%, respectively). Likely in the next census period, the First Nations population will have more PSE graduates than individuals without a high school education.

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8 Canada has a rather unique system that is the result of colonialism. First Nations (in some documents called Indians) are Indigenous nations historically constituted prior to colonial first contact. They have, over the last 4 centuries, engaged in forced and voluntary agreements that have limited their traditional territories and created “reserves,” which are defined through legislation and signed treaties. Status Indians are those who are registered and have status under the Indian Act and these peoples have reserved land. Some Status Indians live in their reserve communities and some do not (approximately 50%; see White et al., 2003). Those who live on reserve are for all intents and purposes Status Indians. There are also a large population of non-Status Indians who have lost their recognition for various reasons and live in urban and smaller towns. These peoples very often identify in surveys as “First Nation” so any data using “First Nation” includes both Status and non-Status First Nations persons. There are also mixed ancestry persons who identify as a separate Indigenous group known as Métis. These peoples live in more urban centres, and, finally, there are the Inuit who live in large part in Canada’s North.

9 As noted, First Nations persons can be either Status or non-Status. Given that non-Status Indians have higher educational attainment the mean levels of the First Nation category are inflated.
Table 3. Highest Educational Attainment by Indigenous Group, 25 to 64 years, 1996 to 2011, Percentages

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<tr>
<td><strong>On reserve</strong></td>
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<tr>
<td>Less than high school</td>
<td>54</td>
<td>48</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>High school</td>
<td>22</td>
<td>19</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>Post-secondary education</td>
<td>24</td>
<td>32</td>
<td>35</td>
<td>27</td>
</tr>
<tr>
<td><strong>Off reserve</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>42</td>
<td>35</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>High school</td>
<td>28</td>
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Attainment of higher levels of education over time is not evident among Inuit or those living on reserve. For on reserve Indigenous, educational attainment levels remained stable. Consistently, a greater proportion of this group has not completed high school than attained a PSE. Inuit educational attainment appears to be worsening; high school non-completions have risen about 11 percentage points over the past 10 years. Among status peoples, non-high school completion is higher compared to post-secondary completion.

**Indigenous and Non-Indigenous Populations**

We see no reason why Indigenous peoples in Canada could not achieve the same levels of education as non-Indigenous peoples if conditions were right. Figure 3 compares highest educational attainment between these populations over time. Similar trends are apparent for both populations: The proportion of those with less than high school education declined, which corresponds with a rise of those with a PSE; high school-only attainment has been relatively stable at about 23% from 2001 to 2011.

Although both populations made gains in higher education, little change occurred to the gaps between them with regard to PSE attainment and high school incompleton. Between 1996 and 2011, Indigenous peoples had a higher percentage—about 19 percentage points—of those with less than high school education compared to non-Indigenous peoples. During the same time, the non-Indigenous population had a higher percentage of those with a PSE—ranging from 16 percentage points in 1996 to 20 percentage points in 2011—compared to the Indigenous population. The disparity between these populations is not narrowing. Indigenous PSE attainment was 65% of the non-Indigenous PSE attainment in 1996, 70% in 2001, 72% in 2006, and 68% in 2011. At best, the gap has remained at the

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We caution readers that the 2011 NHS data were collected somewhat differently than previous Censuses; therefore it will be important to see the next collection periods for comparison (2016 and 2021).
same level. At worst, it is beginning to increase. Clearly, improving high school completion for Indigenous peoples is critical if we are to narrow the PSE gap between these groups.

![Figure 3. Indigenous and non-Indigenous highest educational attainment, 25–64 years, 1996–2011, percentages]

Note. Sources: Statistics Canada (1996, 2001a, 2006b, 2011a)

In Figures 4 through 6, we compare various types of PSE attainment for our populations. There is no gap in trades and apprenticeship attainment between Indigenous and non-Indigenous populations (Figure 4). Figure 5 shows that college attainment remained about constant over time for both groups; there is a slight difference between them (a stable 2 percentage points). In Figure 6, there is a continuous and growing difference between the two trend lines for university attainment. The number of Indigenous degree holders is increasing both absolutely and proportionally, but the increase in non-Indigenous university completion is even greater. This gap is slowly widening; from 12 percentage points in 1996 to 16 percentage points in 2011. Considering the trends we see in these different types of PSE, we can say with certainty that university attainment carries the greatest weight in the PSE gap between the two populations.

**Discussion**

One objective guiding this article was to determine whether adequate progress has taken place with regard to Indigenous peoples' educational attainment in Canada. The answer to this question is of national and international importance. The short answer is that while improvements have been achieved, it should have been better. Below, this answer is elaborated upon. Afterward, we discuss policy attempts since 1996, including the 2014 proposed reforms, and make progressive policy recommendations.
Figure 4. Indigenous and non-Indigenous apprenticeship or trades attainment, 25–64 years, 1996–2011, percentages

Note. Sources: Statistics Canada (1996, 2001a, 2006b, 2011a)

Figure 5. Indigenous and non-Indigenous college attainment, 25–64 years, 1996–2011, percentages

Note. Sources: Statistics Canada (1996, 2001a, 2006b, 2011a)
Undoubtedly, strides have been made in Indigenous peoples' educational attainment in Canada. Among Indigenous peoples, the current working age group is more educated compared to this age group in earlier censuses: Post-secondary attainment increased 186 percentage points between 1996 and 2011. The cumulative increase of PSE graduates reveals a source of labour that can make meaningful contributions to the Canadian economy and Indigenous communities. Another sign of moving forward is the trend observed for Métis, off reserve, non-Status, and First Nations peoples. Over the past 15 years, high school non-completion declined and PSE attainment rose for these groups. Also, Indigenous success is real in apprenticeships, trades, and colleges—Indigenous and non-Indigenous populations have about the same proportions of graduates for these PSE paths.

These gains connect to resources and economic development. Job creation is typically higher in urban areas than rural areas (Burleton et al. 2013). Perhaps Métis and off reserve peoples, who tend to live in cities, see the real value and payoff of high school completion and PSE through proximity to such economic activity. Time away from family and community are important factors among Indigenous peoples when determining whether to attend post-secondary institution (Restoule et al., 2013) and deciding between employment options (McKenzie et al., 2013). Urban centres are home to community colleges and many jobs that require PSE. Disruptions to familial relationships and responsibilities are minimal if urban Indigenous students attend local post-secondary institutions while living at home. Notably, apprenticeship, trades, and college programs require fewer resources, both financial and time, compared to university programs. In short, there may be real socio-cultural and economic explanations for the disparity we see between Status and on-reserve Indigenous persons, and the Métis and non-Status populations, the latter having more improved educational attainment and a declining gap with the non-Indigenous population.
Our conclusion that there has not been adequate improvement in attainment rests on the continuing problems faced by on reserve, Status, and Inuit peoples with regards to high school completion. As well, there is the problem of a growing gap in university PSE attainment. This developing gap bodes poorly for engagement in the 21st century economy. The number of Indigenous post-secondary graduates increased, but PSE attainment among non-Indigenous peoples is increasing much more quickly. In summary, we would point out that the difference in attainment between populations is not narrowing. The disparity is driven by (a) continuing lower attainment of high school among Indigenous populations, (b) the increasing difference of university attainment, and (c) socio-cultural and economic disparities related to living on reserve, having Indian Status, and/or being Inuit.

Policy Attempts Since 1996

We have briefly tracked Canadian policy from the 17th century to the 1996 and looked at the data from 1996 Census to the 2011 NHS. In our discussion of the data, it was noted that, while there have been improvements in the gross numbers of Indigenous persons who have completed high school and in the numbers attending and completing PSE, there are serious on-going problems. First, the high school non-completion rates are far too high. Second, there is an increasing gap between non-Indigenous Canadians and Indigenous people in Canada. Also noted above are intra-Indigenous differences whereby First Nations holding Status and the Inuit are not doing as well as non-Status and Métis peoples.

The history of forced assimilation, including residential schooling, abuse in some institutions, suppression of language and culture, and the other violations that were pointed out earlier in this article, have surely contributed to the problems reviewed in educational attainment, implying that there are past policy failures and current policy shortcomings.

From 1996 to the present there have been quite a few partial and failed attempts to address policy deficits. The most promising was the Education Action Plan (DIAND, 2005). The Canadian federal government, through AANDC (then called Department of Indian Affairs and Northern Development), partnered with the Assembly of First Nations to build an action plan that would tackle who does what in Indigenous education, funding problems, and accountability. The policy was to be delivered in 2007. As Peters (2013) noted:

The steering committee held regional dialogues with various First Nations and education organizations in 2006. However, the projected completion dates for both the policy framework and management framework passed with no documents produced and the AFN reported that INAC halted the collaborative process in 2007 and had proceeded alone [personal communication, 2008]. (p. 39)

While several initiatives were unveiled in the next few years, there was a continuing and growing critique of the State’s approach. Peters (2013) argued:

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11 This was in response, in part, to a critique by the Auditor General of Canada regarding the poor educational attainment resulting from public investments (INAC, 2005).

12 The Education Partnerships Program (EPP) and the First Nation Student Success Program (FNSSP) are examples.
Considering the trajectory of federal First Nations education policy, this initiative was very much in line with the government’s position since 1993 which has been to formally accept and support Indian Control of Indian Education in theory, but to interpret ‘control’ as primarily administrative. (p. 40)

So the programs did not receive support. Fast forward to 2013: The same debate has now become a public issue. The newly launched “Proposal for a Bill on First Nation Education” (see AANDC, 2013) has come under intense criticism. The crux of the difference between First Nations and AANDC is the demand that any change reflect the First Nations people’s proposals. Atleo (2013) suggested, “These include the central principle of First Nation control and the absolute need for a funding guarantee for First Nation children to learn in a safe, secure environment nurtured within their languages and cultures” (p. 1).

The First Nations have indicated, “The current Federal Proposal for a Bill for First Nation Education is not acceptable to First Nations. We must work together on a mutual plan that fully respects and reflects partnership, [and] that is consistent with Treaty relationships . . .” (Atleo, 2013, p. 1). They call for substantial consultation and the core demands included per capita funding equal to the provinces and real control over the content and delivery of education. This group has argued that the scope of consultations is simply unacceptable and there should be a true partnership, and that the proposal is not reflective of partners working together to find solution but is being unilaterally developed from the top down. Further, they say that there is no funding proposal included and the legislation could undermine the existing arrangements whereby some First Nations have developed self-governing control over education. The government argues that, from their perspective, some consultation was done, noting that the First Nations saw the draft proposal and that it is still under discussion (Valcourt, 2013). In addition, Aboriginal Affairs Minister Valcourt indicated that there would be funding with the new legislation, it simply had not been determined how much at this point (Valcourt, 2013). The material from both sides and the 2013 Act itself indicates that the draft had several difficult sticking points. First, while the government said, “It should be noted that the new legislation would not apply to self-governing First Nations that have adopted laws related to education” (AANDC, 2013, p. 9), it is not clear whether new self-governing agreements could be formulated with features of the existing ones. The government also was not clear what funding is really forthcoming. Lastly, the focus of the government seemed to be on accountability, standards, and quality of whatever might be allowed under the new Act. This raises the problem of real sovereignty for First Nations over their education.

The government also raised peoples’ worries when they stated, “the First Nation could enter into an agreement with a provincial school board either to operate the First Nation school on reserve, or students who live on reserve could attend off-reserve schools operated by the provincial school board” (AANDC, 2013, p. 9). The wording led to suspicions that the requirements of the system would push aside real control over the curriculum and lead to a system that continues to undermine Indigenous culture, language, and historical content. Saying that control “could” be delegated is read as “would not

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13 It should be noted that “equal per capita funding” would in itself be inequitable given the decades of underfunding and the enormity of the problems to tackle (see Drummond cited in Galloway, 2013).
14 In several areas, such as New Brunswick, Indigenous control has shown real improvements in the graduation rates from high school (see Valcourt, 2013).
be delegated”. Finally, First Nations also saw the proposal as leading to a loss of control on quality, stating, “there must not be and cannot be unilateral federal oversight and authority vested in the Canadian bureaucracy” (Atleo, 2013, p. 3). Generally, the proposals were vague and First Nations were determined they would not let this historical opportunity pass without gaining substantial control over their educational system.

The First Nations Control of the First Nations Education Act 2014

In a surprise turn of events, February 2014 saw the joint announcement, from the AFN and the Canadian federal government, of a new approach and what appeared to be a new agreement. The new revision of First Nations Control of First Nations Education Act (FNCFNEA) appeared to mark a real shift in policy. The Prime Minister, Stephen Harper, noted, “[The Act] will ensure First Nations control of First Nations education while establishing minimum education standards, consistent with provincial standards off-reserve” (Prime Minister, 2014, p. 1). He also argued:

The bill will also allow for the establishment of First Nation Education Authorities. These Authorities will act like school boards in the provincial education system to provide the key secondary support to help ensure that First Nation schools are meeting their requirements under the Act, and are providing a quality education for First Nation students . . . The First Nations Control of First Nations Education Act will also repeal the provisions in the Indian Act related to residential schools. This measure is of great symbolic importance and aligns with the purpose of this bill; namely, to turn the page on the dark chapter of the Residential School system, and provide the framework for First Nations to develop and implement a quality education system under the control of First Nations. (Prime Minister, 2014, p. 1)

Finally, Prime Minister Harper noted that the announcement has significant differences from the 2013 proposal that was so roundly opposed. He highlighted that the new agreement:

[Includes] adequate stable, predictable and sustainable funding. This funding will replace the complex structures now in place with three funding streams: a statutory funding stream that will have a reasonable rate of growth; transition funding to support the new legislative framework; and funding for long-term investments in on-reserve school infrastructure . . . [It enables] First Nations to incorporate language and culture programming in the education curriculum, and providing funding for language and culture programming within the statutory funding stream. (Prime Minister, 2014, p. 1)

The first response from the AFN (2014) appeared to agree on several issues with the Government. The AFN noted that the agreement “[f]ully respects and confirms First Nation jurisdiction, consistent with Treaties and inherent rights and title. There is also an agreement to joint development of regulations and supportive structures.” The AFN pointed out, “[n]ew funding will be invested and enshrined in statute for First Nations education, along with a predictable annual escalator to ensure funding will keep pace with the costs of quality First Nations education” (p. 1) And very importantly:

Stable and adequate funding for school operations and recognition of First Nations control will ensure the centrality of culture and language in all First Nations schools. This agreement also provides funding to support the development and implementation of First Nations systems.
This agreement commits to mutual accountability. Recognizing the principal of First Nations control and supports without federally imposed or unilateral oversight. (AFN, 2014, p. 1)

The changes appeared to answer the key issues that prevented an agreement between First Nations and Canadian government (AFN, 2014, p. 1).

The Assembly of First Nations Reverses its Support

Within days of the positive assessment of a majority of the AFN leadership, criticism started from different groups, councils and individuals. Candidates like Pam Palmater, defeated by Atleo in the last AFN election for National Chief, spoke out vehemently against the FNCFNEA, stating, “either Atleo [Grand Chief that negotiated the deal] and the regional chiefs have to . . . be accountable [or] . . . they deserve to be removed” (cited in Roman, 2014, para. 3). There were responses to these types of criticism. The AFN’s New Brunswick and P.E.I. Regional Chief, Roger Augustine, was quoted as saying:

The other side, if there’s another side, say we have to protect the rights of our children. But do we do that by walking away each and every time? I’ve seen it so often that people just say “no” and then maybe 10 or 15 years later they come back and say, “OK, let’s discuss this again.” (Roman, 2014, para. 10)

National Chief Atleo resigned, citing the fact that the debate had shifted to his leadership and away from education, stating:

I have fought for this work and to achieve this mandate. This work is too important and I am not prepared to be an obstacle to it or a lightning rod distracting from the kids and their potential. I am therefore, today resigning as national chief. (“Shawn Atleo Resigns,” 2014, para. 6)

Several leaders from different First Nations have made statements about the problems with the Bill as it was written. Grand Chief Michael Delisle of the Mohawk Council of Kahnawake noted:

There are two main points of contention . . . The first one is the lack of formal consultation. Even though Minister Valcourt has been cited saying on numerous occasions that there was extensive consultation, I know for a fact that they never spoke with us . . . The second one is the main point of contention in the bill is if you look through the bill, is that it gives more control to the minister today than the current provisions in the Indian Act. (Gerson, 2014, paras. 21-23)

Our analysis of the act essentially coincides with the comments of the chiefs quoted above. The federal government negotiated with the executive of the AFN and the process did not permit the Assembly to build a consensus with the Indigenous nations across Canada. Bill Erasmus, National Chief of the Dene, pointed this out (“Chiefs Demand Withdrawal,” 2014). Secondly, the federal government insisted there be a jointly appointed oversight body (Prime Minister, 2014). While this body was to be jointly appointed between the AFN and the federal minister, it still ran against the widely articulated demand for Indigenous control. On May 27th, the chiefs of the AFN voted to support the following statement:

Canada must withdraw Bill C-33 and engage in an honourable process with First Nations that recognizes and supports regional and local diversity leading to true First Nation control of
education based on our responsibilities and inherent aboriginal and treaty rights. (cited in “Chiefs Demand Withdrawal”, 2014, para. 5)

The Government, for its part, has removed the Bill from the legislative agenda stating:

As we have said all along, this legislation will not proceed without the support of AFN, and we have been clear that we will not invest new money in an education system that does not serve the best interests of First Nations children; funding will only follow real education reforms. ("Chiefs Demand Withdrawal, 2014, para. 21)

Policy for Moving Educational Attainment Forward

Aside from the debate over the 2013 proposals and the continuing disagreements over the recent 2014 redraft, there are several things that will need to change. For any policy to move forward to make real gains there will need to be several elements in place:

(a) Successful building of PSE attainment requires emphasis on high school completion strategies. This outcome rests on improving the high school curriculum to reflect First Nations peoples in a historically proper light. It means in the short run introducing more Indigenization of the schools and ultimately will require schools built and operated in the territories of the First Nations by Indigenous led school authorities.

(b) Decades of underfunding means large investments are necessary. This is not a form of welfare, but rather an explicit recognition that over the colonial history there has been a deep problem created and, if we are going to make progress, it requires investments. These investments should not be seen as a cost to the non-Indigenous population. It is truly an investment. It leads to improved health and social security for Indigenous peoples through improvement of the social determinants of health and it creates the possibility for hundreds of thousands of Indigenous peoples to engage in the economy. The collective wealth created by such engagement will far outweigh the investments. And lastly, it is simply unacceptable that a segment of the population living in Canada faces the gaps in education, as well as gaps in health, labour force participation, and income, that exist today.

(c) Indigenous control of a properly funded system where voluntary agreements are developed with provincial education systems is a necessary component of any potential solution.

(d) Building on successes is critical. It was noted earlier that colleges are relatively successful in attracting and retaining Indigenous students. It was also noted that current self-governing educational authorities in select areas of the country have vastly improved high school graduation. These models need to be systematically examined and learned from in a practical sense.

(e) Creating a generation of mentors and role models will be an important step forward. Much of the research indicates that success leads to success. Parental educational attainment is highly correlated with children’s success (see Krein & Beller, 1988). Improving attainment in each generation will build greater successes in the next.
Maintaining the status quo is in many ways the worst of all alternatives. Educational reform will require that a consensus be built. As former National Chief Atleo pointed out:

This work is simply too important to walk away and abandon our students to the next round of discussions, to tell them they will have to wait . . . We owe it to ourselves, our children and our nations to make our best efforts to achieve our lifelong goal of First Nations control of First Nations education. (Atleo, 2014, paras. 22-23).
References


Peters, J. (2013). *Selected cases on the continuum of First Nations learning.* (Doctoral dissertation) Retrieved from Scholarship @ Western
http://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=3195&context=etd


