

# 3

## School Success and the Intergenerational Effect of Residential Schooling<sup>1</sup>

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### Introduction

Using the 2006 Aboriginal Peoples Survey, this study sought to investigate the factors associated with school success (as perceived by parents) among off-reserve registered Indian children aged 6 to 14. Holding other factors constant, registered Indian children were more likely to be doing well at school if they: (1) were living in households at the highest income range; (2) were living in adequately maintained dwellings; and/or (3) spoke an Aboriginal language at home. Boys and older children, on the other hand, were less likely to be doing well at school, as were children who: (1) were living in larger households; (2) experienced periods of food insecurity; and/or (3) had parents who attended residential school. Mediation analyses revealed that the negative intergenerational effect of parental residential school attendance on children's school success was partially attributable to some household characteristics. Indeed, former residential school attendees were found to be more likely to live in households with a lower income, to live in larger households, and to report that their families had experienced periods of food insecurity. These characteristics were, in turn, found to be negatively associated with children's school success.

Despite improvements in the educational profile of Canada's Aboriginal population over the past decades (Canadian Education Statistics Council 2007; Statistics Canada 2008a), large gaps in high school completion rates still exist between the Aboriginal and the total Canadian population. For instance, data from the 2006 census for the population aged 25 to 64 indicates that 31% of the off-reserve registered Indian population (the population that will be the focus of the present study) had not completed high school, twice the rate of 15% observed in the total Canadian population (Statistics Canada 2008b).

There is some evidence that Aboriginal individuals without a high school diploma face a greater disadvantage in the labour market than their non-Aboriginal counterparts. In a recent report using 2006 census data, the Canadian Council on Learning (2008) reports that unemployment rates among Aboriginal youth aged 20 to 24 were 14 percentage points higher for high school dropouts than for high school graduates. In comparison, unemployment rates among non-Aboriginal youth were only 3 percentage points higher for high school dropouts than for

graduates. Similarly, Hull (2005), using 2001 census data, reports that Aboriginal adults with educational credentials (i.e., secondary school certificate, post-secondary certificate, university degree) had substantially improved employment and income outcomes compared to those without credentials (partial education). Moreover, Hull found evidence that credentials were of greater importance for employment and earnings to the Aboriginal than to the non-Aboriginal population.

Given the considerably lower rates of high school completion among the Aboriginal population as compared to the total Canadian population, there is a need to better understand the factors that are associated with Aboriginal students' success at school—or lack thereof. Understanding the factors underlying both school success and school difficulties could help improve educational attainment at all levels among the Aboriginal population living in Canada.

Dropping out of high school has been described by many researchers as a multi-faceted and cumulative process, which is likely to be established early in a child's school career (Astone and McLanahan 1991; Ensminger and Slusarcick 1992; Alexander, Entwistle, and Horsey 1997; Garnier, Stein, and Jacobs 1997). In other words, rather than being seen as a single event, dropping out of high school is seen more as a process that occurs over time, and that is the outcome of a complex combination of student, family, and school experiences. Moreover, paths leading to school success or school failure are likely to begin as early as a child's very first years in school.

The present study thus sought to provide insights into some of the factors likely to influence how well Aboriginal students are doing at school, with a focus on the elementary and early high school years. Specifically, using the 2006 Aboriginal Peoples Survey on Children and Youth, the goal of the present study was to investigate the factors associated with perceived school success among registered Indian children aged 6 to 14 who were living off-reserve across Canada.<sup>2</sup> The specific research question addressed was the following: What are some of the circumstances that lead to lower or higher success at school among off-reserve registered Indian children?

## **Defining the Aboriginal Population**

There are various ways to define the Aboriginal population based on the four related questions asked in Statistics Canada's census (ethnic origin, including Aboriginal ancestors; Aboriginal identity; member of an Indian band/First Nation; and registered or treaty Indian), depending on the focus of the research and the needs of the data users.

The focus of the present study will be (off-reserve) registered Indian children, that is, children who were reported in the 2006 Aboriginal Peoples Survey on Children and Youth as being registered or treaty Indians as defined by the *Indian Act* of Canada, regardless of their Aboriginal identity. Accordingly, throughout

the introduction of this report, census-based characteristics of the overall Aboriginal population are described using the (off-reserve) registered Indian population.

Other research cited in the introduction may have defined the Aboriginal population differently. In all cases, specifications are provided.

## **Influences on School Achievement**

Research based on the general population shows that educational achievement is influenced by a wide variety of factors associated with students, their families, the schools that they attend, and their communities (see Rumberger 1995 for a review). Moreover, it is important to keep in mind that the various factors that influence educational achievement are likely to act in concert rather than in isolation (Lee and Burkham 2003). We briefly review a number of key factors known to be associated with school achievement, both generally as well as specifically, with regard to the Aboriginal population.

### ***Family and Household Characteristics***

Several family and household characteristics are well known for their impact on school achievement (Rumberger 1995). Overall, characteristics like parental education, household income, and family structure (single-parent versus two-parent families) are powerful predictors of school achievement and dropping out. In fact, authors like Brady (1996) argue that the difficulties faced by many Aboriginal students may be better explained by disadvantaged socio-economic background than any other factor.

Generally speaking, compared to the total Canadian population, the registered Indian population living off-reserve has lower educational attainment and income levels. According to 2006 census data for adults aged 25 to 64, registered Indians were far less likely to have completed a university degree (9%) as compared to the total Canadian population (23%). The median income<sup>3</sup> in 2005 for the population aged fifteen and over was also lower for registered Indians (\$17,173) than for the total Canadian population (\$25,615). In terms of family structure, data from the 2006 census shows that far fewer registered Indian children aged 14 and under lived with two parents (46%) as compared to children in the total Canadian population (80%) (Statistics Canada 2008b, 2008c).

### ***Housing Conditions***

Housing conditions are closely related to a family's socio-economic status. Health experts assert that inadequate housing can be associated with a multitude of potential health problems for the dwelling's occupants. For example, crowded living conditions can lead to the transmission of infectious diseases and can increase risk for injuries, mental health problems, family tensions, and violence (Health Canada 1999).

The 2006 census found that off-reserve registered Indians were twice as likely as the total Canadian population (7% versus 3%) to live in crowded conditions (that is, one or more people per room). The state of a family's living conditions is also partly determined by the need for major repairs to the home a family is occupying. The 2006 census also showed that off-reserve registered Indians were twice as likely as the total Canadian population (17% versus 8%) to live in a home in need of major repairs (Statistics Canada 2008d).

The impact of housing conditions on Aboriginal children's school achievement has not been well-researched; however, one can argue that crowded living conditions may represent a challenge in terms of providing children with a quiet place to study, for instance. Also, given the relationship between health and educational outcomes, one may expect inadequate housing conditions to be negatively associated with children's school success.

### ***Nutrition***

Eating breakfast has many benefits for children, including providing energy for the morning's activities, helping them to get ready to learn, maintaining a healthy body weight, and helping them to feel good (Turcotte and Zhao 2004). Research has also shown that inadequate nutrition—which may also come from experiencing food insecurity—can have serious impacts, including a decreased ability to concentrate and poor school performance (Wachs 1995).

A study using data from the 1998–99 National Population Health Survey (NPHS)<sup>4</sup> has shown that there was a higher proportion of Aboriginal people living in food-insecure households compared to the total Canadian population (27% versus 10%) (Che and Chen 2001). In other words, because of a lack of money at least once in the 12 months preceding the survey, more Aboriginal people worried that there would not be enough to eat, and/or did not eat the variety or quality of food that they wanted, and/or did not have enough to eat. Furthermore, this study showed that even after controlling for other factors such as household income or marital status, the odds that Aboriginal people would live in a food-insecure household were about one and a half times those for non-Aboriginal people.

### ***Mobility***

Residential moves and transfers to different schools have been argued to be disruptive family events that can be related to dropping out of school (Alexander, Entwistle, and Horsey 1997), especially for younger children (Havemen, Wolfe, and Spaulding 1991). Rumberger and Larson (1998) found that American students who had changed schools between grade 8 and grade 12—even just once—were less likely to have completed high school, even after controlling for student and family background and educational experiences.

Recent Canadian research using administrative data from public schools in British Columbia also demonstrates that mobility is an important factor contributing to school failure in the Aboriginal student population<sup>5</sup> (Aman and

Ungerleider 2008). Indeed, findings from this research suggest that school changes resulting from family moves were associated with large decreases in Aboriginal students' school completion rates. Interestingly, structural school changes, that is, moving from a middle school to a senior high school, were not associated with any decrease in school completion rates.

Registered Indians living off-reserve tend to be more mobile than other Canadians. According to the 2006 census, 27% of the off-reserve registered Indian population had moved in the year prior to the census, compared with 14% of the total Canadian population. About 62% of registered Indians who moved did so within the same community, while 37% of movers changed communities (Statistics Canada 2008b).

### ***Aboriginal Languages***

For many Aboriginal people, Aboriginal languages are an important part of their identity. These languages reflect distinctive histories, cultures, and identities linked to family, community, the land, and traditional knowledge (Norris 2007). The 2006 census recorded over 60 different Aboriginal languages spoken by First Nations people in Canada, grouped into distinct language families. These include Algonquian, Athapascan, Siouan, Salish, Tsimshian, Wakashan, Iroquoian, Haida, Kutenai, and Tlingit (Statistics Canada 2008e). In 2006, about 15% of the off-reserve registered Indian population said they could speak an Aboriginal language well enough to carry on a conversation (Statistics Canada 2008b).

Some authors argue that learning, acquiring, and demonstrating fluency in an Aboriginal language may contribute to positive self-esteem and community well-being, as well as cultural continuity (Canadian Heritage 2005; Hallett, Chandler, and Lalonde 2007; Norris 2007). It is through its impact on self-esteem that fluency in an Aboriginal language is, in turn, thought to be associated with school achievement (Bougie, Wright, and Taylor 2003; Wright and Taylor 1995).

### ***Residential Schools***

The residential school system operated across Canada between 1830 and the 1990s, peaking in 1931 when 80 residential schools were in operation. Residential schools were largely operated by churches in partnership with the federal government. The largest attendance of Aboriginal children at residential schools was in the West and the North (Aboriginal Healing Foundation 2002).

It has been stated that, "in order to attend Residential Schools, Aboriginal children were removed from their homes, and often taken far from their families and communities. While at school, children were prevented from speaking their own languages and learning about their culture and heritage. It is not uncommon to hear some former students speak about the positive experiences in these institutions; however, many former students suffered physical and sexual abuse" (Indian and Northern Affairs Canada 2008).

The last residential school for Aboriginal children in Canada closed in the 1990s but the impacts will likely affect many generations of Aboriginal peoples, their children, and their communities (Where are the Children? 2008; Aboriginal Healing Foundation 2002). Little research has systematically explored the indirect intergenerational effects of residential schooling on the education outcomes of children and youth whose parents were former residential school attendees. Two recent national studies, however, have started to shed some light on this issue.

The first study, using data from the First Nations Regional Longitudinal Health Survey 2002–03<sup>6</sup> has found that First Nations youth aged 12 to 17 (who lived in First Nations communities) were more likely to report having learning problems at school, and to report having had to repeat a grade, if one or both of their parents had attended residential school (Assembly of First Nations 2007). Interestingly, the attendance of one or more grandparents at a residential school was unrelated to learning problems at school or having to repeat a grade, indicating that there may be a generational decrease in the impact of attending residential schools (Assembly of First Nations 2007).

A related finding has also emerged in another recent study using the 2006 Aboriginal Peoples Survey in a sample of off-reserve First Nations children aged 6 to 14. According to this data, off-reserve First Nations children whose parents (one or both) had attended residential schools were less likely to be doing “very well” or “well” at school compared to children whose parents had not attended residential schools (Bougie 2009).

Parental residential school attendance thus appears to be a contributing factor in Aboriginal children’s experiences at school. To the extent that this finding is replicated in the present study, it would be important to attempt to understand the mechanisms likely at play in the relationship between parental residential school attendance and Aboriginal children’s school success. Specifically, is this negative intergenerational effect attributable to other factors? A more in-depth analysis of the indirect effects of residential schools on today’s Aboriginal children and youth would help us better understand their current experiences, as well as the adversity that they may face (Assembly of First Nations 2007).

## **The Present Study**

Given that many researchers view the path toward dropping out of school as beginning in the early years, there is a need to look at the school experiences and circumstances of children in order to understand the lower high school completion rates of Aboriginal people in Canada. The goal of the present study was to investigate the factors associated with perceived school success among registered Indian children aged 6 to 14 who were living off-reserve across Canada. Furthermore, should evidence of a negative effect of parental residential school attendance on children’s success at school be found, the present study also sought to investigate this relationship in a more in-depth manner to gain a better understanding of some of the mechanisms likely at play.

## Methodology

### *Data Source*

The data source used in this study was the 2006 Aboriginal Peoples Survey, Children and Youth (6 to 14) component. The Aboriginal Peoples Survey (APS) provides an extensive set of data about the lifestyles and living conditions of Métis, Inuit, and off-reserve First Nations adults aged 15 years and over and children aged 6 to 14 living in urban, rural, and northern locations across Canada.

The APS was developed by Statistics Canada in partnership with five national Aboriginal organizations: the Congress of Aboriginal Peoples; Inuit Tapiriit Kanatami; the Métis National Council; the National Association of Friendship Centres; and the Native Women's Association of Canada. Moreover, the following federal departments sponsored the 2006 APS: Indian and Northern Affairs Canada; Health Canada; Human Resources and Social Development Canada; Canada Mortgage and Housing Corporation; and Canadian Heritage.

The APS is a post-census survey; that is, a sample of about 60,000 people was selected from adults 15 years and over and children aged 6 to 14 living in private households whose responses on their 2006 census questionnaire indicated that they: had Aboriginal origins; and/or identified as North American Indian,<sup>7</sup> Métis, and/or Inuit; and/or had treaty or registered Indian status; and/or had Indian band membership. The 2006 APS covers the Aboriginal population living off-reserve in the ten provinces, and all Aboriginal peoples living in the Yukon, Northwest Territories, and Nunavut.

The 2006 APS was conducted between October 2006 and March 2007. Personal interviews were conducted in Inuit communities, the Northwest Territories (except for Yellowknife), and in other remote areas, while telephone interviews were conducted elsewhere. The overall response rate for the 2006 APS was about 80%. More detailed information about the survey is available in the "APS Concepts and Methods Guide" (Statistics Canada 2009, Catalogue no. 89-637-X, No. 003).

The APS on Children and Youth (6 to 14)—the component that will be the focus of the present study—is a survey that collected data about children from their parent(s)/guardian(s). It is therefore important to note that the findings in this study are based on the perceptions and reporting of the parent/guardian who responded on behalf of their child. In the majority of cases this person was the parent of the child, either the mother (63%) or the father (16%); in 5% of cases the parent/guardian was the child's grandparent and in another 5% of cases, a foster parent. To facilitate readability, the term "parent" will be used throughout the report when referring to the person who responded on behalf of the child. Overall, 78% of parents were women, whereas 20% were men.<sup>8</sup> The proportions of parents in each age breakdown were as follows: 24 or younger (2%), 25 to 34 (33%), 35 to 44 (40%), 45 to 54 (15%), and 55 or older (6%).<sup>9</sup>

## Target population

The focus of this study was children with reported treaty Indian or registered Indian status. Only registered Indian children with reported First Nations, Métis, or Inuit identities (as a single identity or in combination) were included in our target population. The resulting sample size was 4,860 children (2,359 girls and 2,501 boys) between the ages of 6 to 14, representing about 68,475 children with treaty or registered Indian status living off-reserve across Canada.

In this group of children, about 85% were identified by parents as First Nations (single identity), 11% as Métis (single identity), and 3% as First Nations in combination with Métis identity. Most were reported to be members of an Indian band or a First Nation (89%). About three-quarters (74%) were residing in urban areas while about one-quarter (26%) were residing in rural areas.<sup>10</sup> The proportions of children in each jurisdiction were as follows: Ontario (20%), Alberta (17%), British Columbia (17%), Manitoba (16%), Saskatchewan (16%), Quebec (5%), the Territories (5%), and the Atlantic region (4%).<sup>11</sup>

### Registered Indian Status

The 2006 APS asked parents, "Is <child's name> a Treaty Indian or a Registered Indian as defined by the *Indian Act* of Canada?"

The *Indian Act* sets out certain federal government obligations and regulates the management of Indian reserve lands, Indian moneys, and other resources. Registered Indians or "status Indians" are people who are entitled to have their names included on the Indian Register, an official list maintained by the federal government. Certain criteria determine who can be registered as a status Indian. Only Registered Indians are recognized as Indians under the *Indian Act*, which defines an Indian as "a person who, pursuant to this Act, is registered as an Indian or is entitled to be registered as an Indian." Status Indians are entitled to certain rights and benefits under the law.

Generally speaking, Treaty Indians are persons who are registered under the *Indian Act* and can prove descent from a band that signed a treaty.

For more information, including the inheritance rules regarding the passing of Registered Indian status from parents to children, see the Indian and Northern Affairs Canada website at: [www.ainc-inac.gc.ca/pr/pub/wf/index\\_E.html](http://www.ainc-inac.gc.ca/pr/pub/wf/index_E.html).

## Measuring School Success in the APS

Direct or objective measures of school success, such as standardized tests scores or actual report cards, are not available from the 2006 APS.<sup>12</sup> The 2006 APS does, however, include three potential indicators of how children are generally doing at school. These indicators are: school attendance, school absenteeism, and age-grade appropriateness.<sup>13</sup>

Virtually all registered Indian children were reported to be currently attending school (98%), while only about 1% of children were reported to not be attending school. About 4% were reported to have been absent from school for two or more weeks in a row during the school year.<sup>14</sup> Finally, about 2% of registered Indian children were found to be in a grade that was not appropriate for their age.<sup>15</sup> It

thus appears that data for these indicators, while providing a relatively positive descriptive portrait of some aspects of registered Indian children's school experiences, nevertheless does not offer enough variance for an in-depth investigation of the dynamics of higher and lower school success.

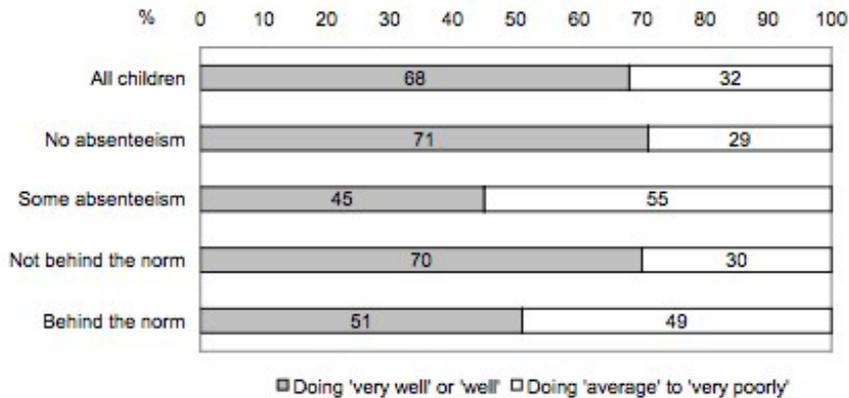
The 2006 APS contains another indicator of children's school success based on parental perceptions. Parents were asked the following question: "Based on your knowledge of (child)'s school work, including report cards, overall, how well is (child) doing at school this year? Would that be ... very well? well? average? poorly? very poorly?" According to this data, 42% of registered Indian children were reported to be doing "very well" and 26% were reported to be doing "well" at school. One-quarter (25%) were reported to be doing "average," and 5% "poorly" or "very poorly" at school. This measure of perceived school success thus appears to provide the necessary variance to further investigate patterns of higher and lower school success.

In order to validate our perceived school success measure, we cross examined it with the more objective indicators of school absenteeism and age-grade appropriateness. As can be seen in **Figure 3.1** (page 42), among children who had no absenteeism and among those who were in a grade that was appropriate for their age (i.e., not behind the norm), the proportions doing "very well" or "well" at school (71% and 70% , respectively) were similar to the overall sample (68%). However, children who had experienced some school absenteeism were significantly less likely to be doing "very well" or "well" at school than the overall sample (45% versus 68%), as were children who were behind the norm (51% versus 68%).<sup>16</sup>

A logistic regression predicting the probability of doing "very well" or "well" at school, and including both school absenteeism and age-grade appropriateness as predictors in the equation, confirmed the relationships observed in this descriptive examination. Having been absent from school for two or more weeks in a row, and being in a grade that was behind the norm for their age were significantly and negatively associated with children's school success (odds ratio for school absence = 0.33,  $p < .001$ ; odds ratio for age-grade appropriateness = 0.45,  $p < .001$ ).

Taken together, these results provide some evidence that parental perceptions of their child's school success are indeed associated with more objective measures of how well children are doing at school. Even though the direction of the observed associations could go both ways, these results nevertheless lend support to the validity of our perceived school success measure.

**Figure 3.1: Perceived School Success by School Absenteeism and Age-Grade Appropriateness, Off-Reserve Registered Indian Children Aged 6 to 14**



Source: Adapted from Statistics Canada, Special tabulation, based on 2006 Aboriginal Peoples Survey. All computations, use and interpretation of these data are entirely that of the authors.

### The National Longitudinal Survey of Children and Youth

A similar school success question based on parents' perceptions is used in Statistics Canada's National Longitudinal Survey of Children and Youth (NLSCY). According to these data, similar perceptions of how children were doing at school were found for all children aged 6 to 14 in Canada.<sup>17</sup> In the NLSCY, parents were asked to rate how well their child was doing overall at school this year. About 42% of all children in Canada were reported by their parents to be doing "very well," 25% "well," 24% "average," and 4% "poorly," or "very poorly" at school.

In the NLSCY, direct assessments are completed in certain cycles for certain age groups. This provides the opportunity to evaluate the question of whether parent report measures are consistent with more objective test results. A report being prepared for the Children and Youth Research Paper Series, which will be completed in 2009, will include an evaluation of the validity of parent report. The report focuses on 9-year-old children in grades 3 and 4. It will look at parent response to a question about how well their children were doing in school in mathematics, in combination with scores from an objective mathematics test that was administered to these children as well.

### Independent Variables

The present study sought to investigate the association between off-reserve registered Indian children's school success (as perceived by parents) and a number of family and household, student, and demographic characteristics. The family and household characteristics that were investigated were: parental education, household income, living arrangements, mobility in the previous year, parental residential school attendance, and two indicators of housing conditions—household size (as a proxy for crowded living conditions)<sup>18</sup> and whether or not the dwelling was in need of repairs (as a measure of adequacy of housing conditions). The student characteristics that were investigated included children's use of an Aboriginal language at home, as well as two nutrition related indicators—whether

or not the child ate breakfast every day and whether or not the child experienced being hungry.

### ***Parental Education***

Parents were asked about their highest level of education ever completed. Five categories of parental education were created: (1) less than high school; (2) high school; (3) some post-secondary education—that is some college-, CEGEP-, or university-level courses, but with no certificate, diploma, or degree; (4) college, CEGEP, trade/vocational, or apprenticeship certificate, or university certificate or diploma below a Bachelor's degree; and (5) completed university degree. About 29% of off-reserve registered Indian children had parents who had not completed high school, while approximately one-fifth (21%) had parents who had completed high school as their highest level of education. About 13% had parents with some post-secondary education, while about 27% had parents who had completed a college or trade/vocational certificate or diploma. Finally, about one-tenth (9%) of off-reserve registered Indian children had parents who had completed a university degree.

### ***Household Income***

The 2006 census variable of total household income was used; this variable was linked to the APS file. The total income of a household is the sum of the total incomes of all members of that household. The total household incomes of the off-reserve registered Indian population aged 6 to 14 were ranked from lowest to highest and then divided into five groups of equal numbers of units, called quintiles. Households in the lowest income range had a total income of less than \$22,218. Households in the highest income range had a total income of more than \$80,256.

### ***Living Arrangements***

Parents were asked whether their household was a one- or two-parent household (including step-parents, adoptive parents, foster parents, legal guardians, etc). About 42% of off-reserve registered Indian children were living in a one-parent household, while 58% were living in a two-parent household.

### ***Mobility in the Previous Year***

The 2006 APS does not have information on residential moves or school transfers, however the 2006 census provides data on residential moves. The 2006 census mobility status variable was used; this variable was linked to the APS file. This variable refers to the relationship between a person's usual place of residence on census day and his/her usual place of residence one year earlier. Three categories were used: (1) residing at the same address as the previous year; (2) residing in a different dwelling but in the same community (or census subdivision [CSD]); and (3) residing in a different community (or CSD).<sup>19</sup> About 77% of off-reserve

registered Indian children were residing at the same address as the previous year, while 15% were residing in a different dwelling (in the same community), and 9% in a different community.

### ***Parental Residential School Attendance***

Parents were asked if they, and their current partner or spouse, were “ever a student at a federal residential school, or a federal industrial school.” About 16% of off-reserve registered Indian children had parents (one or both) who indicated that they were former residential school students.<sup>20</sup>

### ***Household Size***

Parents were asked to indicate how many individuals lived in this household, including themselves and the child. Two categories were created: off-reserve registered Indian children living in households with five persons or fewer (74%) and those living in households with six or more persons (26%).

### ***Adequacy of Housing Conditions***

The 2006 census variable “dwelling in need of repair” was used; this variable was linked to the APS file. This variable refers to whether, in the judgment of the respondent, the dwelling requires any repairs (excluding desirable remodeling or additions). The proportion of off-reserve registered Indian children living in adequate housing conditions (no repair needed, only regular maintenance) was 45%, while 55% lived in dwellings that needed repairs (minor: 37%, major: 18%).

### ***Aboriginal Language Use at Home***

Parents were asked to indicate the frequency with which their child currently used an Aboriginal language in his/her household. Two categories were created: off-reserve registered Indian children who used an Aboriginal language “some of the time,” “most of the time,” or “all the time” at home (21%), and those who did not use or who used an Aboriginal language “very seldom” at home, including children who could not speak or understand an Aboriginal language (79%).

### ***Eating Breakfast***

Parents were asked to indicate how often their child had eaten breakfast in the last week. Two categories were created: off-reserve registered Indian children who were reported to eat breakfast every day (80%), and those who did not eat breakfast every day (20%). Of note is the fact that the APS did not ask where children ate breakfast—breakfast may have been provided at home, at school, or by a caregiver. Further, the APS did not inquire about the type of breakfast that was provided to children or about the reasons why breakfast was not consumed.

### ***Food Insecurity***

Parents were asked whether their child had “ever experienced being hungry because the family had run out of food or money to buy food.” The proportion of off-reserve registered Indian children reported to have experienced such food insecurity was 12%, whereas 88% did not experience being hungry due to lack of food.

## **Results**

### ***Modelling Perceived School Success***

The specific research question addressed in this section was the following: What are the factors associated with off-reserve registered Indian children’s school success? Logistic regression models were applied for predicting the odds that children did “very well” or “well” at school (as perceived by parents).<sup>21</sup> Perceived school success was analyzed as the outcome variable predicted by a number of family and household, student, and demographic characteristics.

We first analyzed the effect of each factor on school success individually. Odds ratios for parental education, mobility in the previous year, parent’s sex, and urban versus rural area of residence did not reach statistical significance. These factors were not included in the full model. **Table 3.1** (pages 46–47) shows the odds ratios for the single variable models, and for the full model. We discuss findings from the full model. Results from this model indicate which factors are significantly associated with doing “very well” or “well” at school, while controlling for the presence of other factors.<sup>22</sup>

First, in terms of demographic characteristics, boys and older children were found to be less likely to be doing “very well” or “well” at school, as compared to girls and younger children. All other factors being held constant, the odds of doing “very well” or “well” at school for off-reserve registered Indian boys were significantly lower than the odds for girls (odds ratio = 0.6,  $p < .001$ ). Similarly, the odds of doing “very well” or “well” at school for off-reserve registered Indian children aged 11 to 14 were significantly lower than the odds for children aged 6 to 10 (odds ratio = 0.7,  $p < .001$ ).

Household income, housing conditions, and household size were found to be significantly associated with off-reserve registered Indian children’s school success. All other factors being held constant, the odds of doing “very well” or “well” at school for children who were living in households at the top income quintile were higher (odds ratio = 1.4,  $p < .05$ ) than the odds for children who were at the lowest range. Similarly, the odds of doing “very well” or “well” at school for children who were living in adequately maintained dwellings (i.e., no repair needed) were higher (odds ratio = 1.2,  $p < .01$ ) than the odds for children living in dwellings in need of repairs. The odds of doing “very well” or “well” at school for children living in relatively larger households (i.e., six persons or

**Table 3.1: Logistic regression results predicting the odds of doing “very well” or “well” at school, off-reserve registered Indian children aged 6 to 14**

| Factors                                    |                                              | Odds ratio for single variable | Odds ratio for full model |
|--------------------------------------------|----------------------------------------------|--------------------------------|---------------------------|
| <b>Parental level of education</b>         | Completed university degree                  | 1.13                           | ...                       |
|                                            | College, trade/vocational, or apprenticeship | 1.09                           | ...                       |
|                                            | Some post-secondary                          | 1.09                           | ...                       |
|                                            | High school                                  | 1.07                           | ...                       |
|                                            | Less than high school+                       | 1.00                           | ...                       |
| <b>Household income</b>                    | Quintile 5 (highest)                         | 1.31*                          | 1.39*                     |
|                                            | Quintile 4                                   | 1.13                           | 1.20                      |
|                                            | Quintile 3                                   | 1.08                           | 1.14                      |
|                                            | Quintile 2                                   | 1.05                           | 1.15                      |
|                                            | Quintile 1 (lowest)+                         | 1.00                           | 1.00                      |
| <b>Living arrangements</b>                 | Two-parent household                         | 1.18*                          | 1.10                      |
|                                            | One-parent household+                        | 1.00                           | 1.00                      |
| <b>Mobility in the previous year</b>       | Different CSD                                | 0.93                           | ...                       |
|                                            | Different dwelling, same CSD                 | 0.81                           | ...                       |
|                                            | Same address+                                | 1.00                           | ...                       |
| <b>Parents attended residential school</b> | Yes                                          | 0.71***                        | 0.78*                     |
|                                            | No+                                          | 1.00                           | 1.00                      |
| <b>Household size</b>                      | 6 persons or more                            | 0.75***                        | 0.71***                   |
|                                            | 5 persons or fewer+                          | 1.00                           | 1.00                      |
| <b>Dwelling in need of repair</b>          | No repair needed                             | 1.24**                         | 1.22**                    |
|                                            | Repairs needed+                              | 1.00                           | 1.00                      |
| <b>Aboriginal language use at home</b>     | Yes (“some” to “all” the time)               | 1.22*                          | 1.28*                     |
|                                            | No+                                          | 1.00                           | 1.00                      |
| <b>Eating breakfast every day</b>          | Yes                                          | 1.25**                         | 1.16                      |
|                                            | No+                                          | 1.00                           | 1.00                      |
| <b>Experienced being hungry</b>            | Yes                                          | 0.65***                        | 0.73**                    |
|                                            | No+                                          | 1.00                           | 1.00                      |
| <b>Child’s sex</b>                         | (0=girl; 1=boy)                              | 0.58***                        | 0.55***                   |
| <b>Child’s age</b>                         | (0=6 to 10; 1=11 to 14)                      | 0.66***                        | 0.70***                   |
| <b>Parent’s sex</b>                        | (0=woman; 1=man)                             | 0.91                           | ...                       |
| <b>Parent’s age</b>                        | (1=34 or fewer; 2=35 to 44; 3=45 or more)    | 0.82***                        | 0.84**                    |
| <b>Area of residence</b>                   | Rural                                        | 1.10                           | ...                       |
|                                            | Urban+                                       | 1.00                           | ...                       |
| <b>Geography</b>                           | Atlantic+                                    | 1.00                           | 1.00                      |

| Factors |                  | Odds ratio for single variable | Odds ratio for full model |
|---------|------------------|--------------------------------|---------------------------|
|         | Quebec           | 0.84                           | 0.74                      |
|         | Ontario          | 0.75                           | 0.73                      |
|         | Manitoba         | 0.75                           | 0.84                      |
|         | Saskatchewan     | 0.80                           | 0.95                      |
|         | Alberta          | 0.64**                         | 0.69*                     |
|         | British Columbia | 0.72                           | 0.71                      |
|         | Territories      | 0.69                           | 0.71                      |

Notes: The odds ratio for single variable indicates the effect of each factor on school success when analyzed individually. The odds ratio for full model indicates the effect of each factor on school success when all other variables in the model are held constant.

Odds ratios for parental education, mobility in the previous year, parent's sex, and area of residence in the single variable models did not reach statistical significance. These factors were not included in the full model.

The full model is based on 4,341 off-reserve registered Indian children (representing 60,780 children) for whom there were no missing value on any variables included in the model.

All models were calculated using sample survey weights and bootstrap weights to obtain the correct variance estimates.

+ Reference group

... Not applicable

\* Statistically significant difference from the reference group ( $p < .05$ )

\*\* Statistically significant difference from the reference group ( $p < .01$ )

\*\*\* Statistically significant difference from the reference group ( $p < .001$ )

Source: Adapted from Statistics Canada, Special tabulation, based on 2006 Aboriginal Peoples Survey. All computations, use and interpretation of these data are entirely that of the author(s).

more) were lower than the odds for children living in smaller households (odds ratio = 0.7,  $p < .001$ ).

Experiencing food insecurity was also found to be negatively associated with off-reserve registered Indian children's school success. All other factors being held constant, the odds of doing "very well" or "well" at school for children who experienced being hungry were significantly lower than the odds for children who did not (odds ratio = 0.7,  $p < .01$ ).

Using an Aboriginal language at home was positively associated with off-reserve registered Indian children's school success. All other factors being held constant, the odds of doing "very well" or "well" at school for children who spoke an Aboriginal language at home were significantly higher than the odds for children who did not or who could not speak an Aboriginal language (odds ratio = 1.3,  $p < .05$ ).

Finally, replicating the findings observed in a recent study by Bougie (2009), which also used the 2006 APS, parental residential school attendance was found to be negatively associated with how well off-reserve registered Indian children were doing at school. All other factors being held constant, the odds of doing "very well" or "well" at school for children whose parents attended residential

schools were significantly lower than the odds for children whose parents did not attend residential schools (odds ratio = 0.8,  $p < .05$ ).

Some factors that were significant in the single variable models lost their significance in the full model. This was the case for living arrangements (i.e., living in a one- versus two-parent family) and eating breakfast every day.

## **Toward a Better Understanding of the Impact of Residential School Attendance**

There appears to be a negative intergenerational effect of residential schools: off-reserve registered Indian children whose parents (one or both) attended residential schools were less likely to be doing well in school. Given that this finding has begun to emerge in a number of recent studies (Assembly of First Nations 2007; Bougie 2009), there is a need to better understand the relationship between parental residential school attendance and children's perceived school success. The next section thus explores the following research question: What are the mechanisms that may underlie this relationship? In other words, is the relationship between parental residential school attendance and children's school success at least partly attributable to other factors?

The 2006 APS on Children and Youth, because of its focus on children, does not contain any information on former residential school attendees' experiences while they were attending these institutions, or on the long-term consequences of residential school attendance. The APS did, however, ask parents about their expectations regarding their child's education. It could be argued that former residential school attendees have developed distrust toward the "mainstream" educational system brought on by their negative experiences with residential schools. It is thus reasonable to suggest that former residential school attendees may not place high importance on their own children attending formal educational institutions.

Parents were asked to indicate how important it was to them that their child graduates from high school and that their child goes on to post-secondary education. We cross-examined these parental expectations by whether or not parents attended residential schools. Findings revealed that parents who attended residential schools were as likely as parents who did not attend these institutions to think it "very important" that their child graduates from high school (98% versus 97%, respectively). Furthermore, parents who attended residential schools were significantly more likely to think it "very important" that their child goes on to post-secondary education (91%) than parents who did not attend these institutions (86%).<sup>23</sup> These results suggest that parental expectations regarding their child's education do not appear to be a mechanism at play in the negative association between parental residential school attendance and children's school success. To the contrary, these results suggest that parents strongly believe in the impor-

tance of education for their children, whether or not they were former residential school attendees.

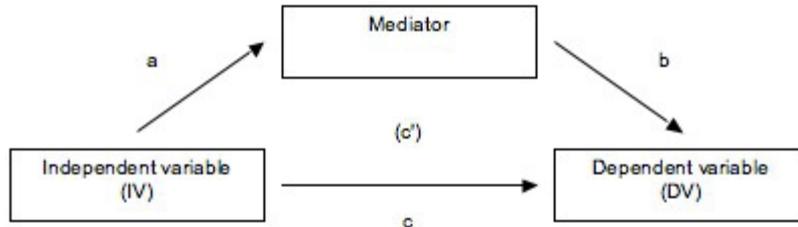
While the 2006 APS contains limited information on the psychological pathways that could potentially explain the relationship between parental residential school attendance and children's school success, this survey effectively allows an examination of a number of demographic and socio-economic characteristics of the households in which children are living. We now turn to exploring some of these characteristics, according to whether or not parents were former residential school attendees.

In terms of basic socio-demographic characteristics, parents who attended residential schools were found to be older than those who did not. For instance, there were significantly more individuals aged 45 and over among parents who had attended (34%) than among those who had not attended (19%) residential schools.<sup>24</sup> There were also significantly more parents/guardians who were grandparents to the child among those who had attended (14%) than among those who had not attended (4%) residential schools.<sup>25</sup> Parents who had attended residential schools were also more likely to report having other family members who had also attended. For instance, significantly more individuals reported that both their mother and father had been residential school students among parents who had attended (57% for mother and 48% for father) than among those who had not attended (25% for mother and 18% for father) residential schools.<sup>26</sup>

Significant differences in basic socio-economic indicators were also found between former residential school attendees and those who did not attend these institutions.<sup>27</sup> In terms of highest level of education attained, the proportion with a completed university degree was significantly lower among parents who had attended (7%) than among those who had not attended (10%) residential schools. Similarly, the proportion with no high school diploma was significantly higher among parents who had attended (36%) than among those who had not attended (28%) residential schools. In terms of income, there were significantly fewer individuals at the top income quintile among parents who had attended residential schools (14%) than among those who had not (21%).

These observations lend some support to some authors' claims that the problems associated with residential schools led to a reduced capacity for Aboriginal children and adolescents to continue education after leaving the residential school, as well as reduced income as adults (Barnes, Josefowitz, and Cole 2006). Parental education and household income therefore appear to represent two potential pathways through which the negative intergenerational effect of parental residential school attendance may be passed on to children.

To further investigate the relationship between parental residential school attendance, socio-economic characteristics, and children's perceived school success, we conducted a series of mediation analyses. The goal of these analyses was to find out whether other factors—referred to here as mediators—may explain the

**Figure 3.2: Chain of Associations in Mediation**

relationship between parental residential school attendance and children's school success.

## Mediation Analysis

A factor may be considered a mediator to the extent to which it carries the influence of a given independent variable, or IV (in our case, parental residential school attendance) to a given dependent variable, or DV (in our case, children's perceived school success). The basic chain of associations involved in mediation is illustrated in **Figure 3.2**.

According to Baron and Kenny (1986), a factor is confirmed as a mediator if:

1. There is a significant relationship between the IV and the DV in the absence of the mediator (Path c);
2. There is a significant relationship between the IV and the mediator (Path a);
3. The mediator has a significant unique effect on the DV while controlling for the IV (Path b); and
4. The effect of the IV on the DV is reduced upon the addition of the mediator to the model (Path c').

If the relationship between the IV and the DV goes to zero when the mediator is in the equation, mediation is said to be full or complete. If the relationship is diminished, but not to zero, mediation is said to be partial. Because the pathway from parental residential school attendance to children's school success is likely to be a complex one involving several potential mediators not measured in the APS, a more realistic goal may be to seek mediators that significantly decrease Path c rather than eliminating the relation between the IV and DV altogether.

These criteria can be used to informally judge whether or not mediation is occurring, but Sobel (1982) presented a method by which mediation may be formally assessed. The Sobel method statistically tests whether a mediator significantly carries the influence of an IV to a DV. The mediating effect of a factor is tested as the difference between the relationship of IV and DV with and without consideration of the factor (i.e., comparing Path c and Path c').

The goal of this section was thus to look for factors that could explain or mediate (even if only partially) the relationship between parental residential school atten-

dance (IV) and children's perceived school success (DV). In addition to parental education and household income, the following factors were also investigated as potential mediators: living arrangements, mobility in the previous year, household size, adequacy of housing conditions, eating breakfast every day, and food insecurity. Even though some of these factors were not found to be significant in the logistic regression models—that is, some had no significant unique effect on children's school success—they could still play a role as mediators in the relationship between parental residential school attendance and children's school success. Moreover, an important pathway to test in mediation analysis (which was not tested in the logistic regressions) is whether or not parental residential school attendance is a significant predictor of the mediator.

Each mediation analysis is comprised of three separate logistic regressions: a first regression for testing Path c, a second for testing Path a, and a third for Path b and c'. All regressions controlled for child's gender and age, parent's age, as well as geography. As can be seen in **Table 3.2** (pages 52–53), three factors acted as significant mediators in the relationship between parental residential school attendance and children's school success: household income, household size, and food insecurity.

Parental residential school attendance was negatively associated with living in a household at the top income quintile (Path a;  $\beta = -.72$ ,  $p < .001$ ), and living in a household at the top income quintile was positively associated with doing “very well” or “well” at school while controlling for parental residential school attendance (Path b;  $\beta = .29$ ,  $p < .01$ ). Household income partially mediated the relation between parental residential school attendance and children's school success (Path c';  $\beta = -.23$ ,  $p < .05$ , Sobel's  $z = -2.53$ ,  $p < .01$ ).

Similarly, parental residential school attendance was positively associated with living in a relatively large household (Path a;  $\beta = .56$ ,  $p < .001$ ), and living in a relatively large household was negatively associated with doing “very well” or “well” at school while controlling for parental residential school attendance (Path b;  $\beta = -.31$ ,  $p < .001$ ). Household size partially mediated the relation between parental residential school attendance and children's school success (Path c';  $\beta = -.24$ ,  $p < .05$ , Sobel's  $z = -2.78$ ,  $p < .01$ ).

Finally, parental residential school attendance was positively associated with experiencing food insecurity (Path a;  $\beta = .61$ ,  $p < .001$ ), and experiencing food insecurity was negatively associated with doing “very well” or “well” at school while controlling for parental residential school attendance (Path b;  $\beta = -.37$ ,  $p < .01$ ). Experiencing food insecurity partially mediated the relation between parental residential school attendance and children's school success (Path c';  $\beta = -.28$ ,  $p < .05$ , Sobel's  $z = -2.44$ ,  $p < .05$ ).

Adequacy of housing conditions and mobility in the previous year were found to be associated with both parental residential school attendance (Path a) and children's school success (Path b); however, these factors did not mediate this relationship (Sobel's tests failed to reach statistical significance).

**Table 3.2: Mediation Analyses**

| <b>Mediator: Household income (top quintile)</b>          |         | <b>Coef.</b> |
|-----------------------------------------------------------|---------|--------------|
| Regression 1                                              | Path c  | -0.28*       |
| Regression 2                                              | Path a  | -0.72***     |
| Regression 3                                              | Path b  | 0.29**       |
|                                                           | Path c' | -0.23*       |
| Sobel's $z = 2.53, p < .01$                               |         |              |
| <b>Mediator: Household size (6 persons or more)</b>       |         |              |
| Regression 1                                              | Path c  | -0.28*       |
| Regression 2                                              | Path a  | 0.56***      |
| Regression 3                                              | Path b  | -0.31***     |
|                                                           | Path c' | -0.24*       |
| Sobel's $z = -2.78, p < .01$                              |         |              |
| <b>Mediator: Food insecurity</b>                          |         |              |
| Regression 1                                              | Path c  | -0.28*       |
| Regression 2                                              | Path a  | 0.61***      |
| Regression 3                                              | Path b  | -0.37**      |
|                                                           | Path c' | -0.28*       |
| Sobel's $z = -2.44, p < .01$                              |         |              |
| <b>Mediator: Housing conditions (no repairs needed)</b>   |         |              |
| Regression 1                                              | Path c  | -0.28*       |
| Regression 2                                              | Path a  | -0.22*       |
| Regression 3                                              | Path b  | 0.21**       |
|                                                           | Path c' | -0.27*       |
| Sobel's $z = -1.68, p = .09$                              |         |              |
| <b>Mediator: Mobility in previous year (same address)</b> |         |              |
| Regression 1                                              | Path c  | -0.28*       |
| Regression 2                                              | Path a  | -0.34**      |
| Regression 3                                              | Path b  | 0.19*        |
|                                                           | Path c' | -0.27*       |
| Sobel's $z = -1.60, p = .11$                              |         |              |
| <b>Mediator: Parental education (university degree)</b>   |         |              |
| Regression 1                                              | Path c  | -0.28*       |
| Regression 2                                              | Path a  | -0.55**      |
| Regression 3                                              | Path b  | 0.07         |
|                                                           | Path c' | -0.26*       |
| Sobel's $z = -0.5, p = .62$                               |         |              |

**Mediator: Living arrangements (two-parent)**

|              |         |        |
|--------------|---------|--------|
| Regression 1 | Path c  | -0.28* |
| Regression 2 | Path a  | -0.17  |
| Regression 3 | Path b  | 0.14   |
|              | Path c' | -0.27* |

Sobel's  $z = -1.22$ ,  $p = .22$

**Mediator: Eating breakfast every day**

|              |         |        |
|--------------|---------|--------|
| Regression 1 | Path c  | -0.28* |
| Regression 2 | Path a  | -0.17  |
| Regression 3 | Path b  | 0.19*  |
|              | Path c' | -0.3** |

Sobel's  $z = -1.09$ ,  $p = .27$

Notes: All logistic regression models were calculated using sample survey weights and bootstrap weights to obtain the correct variance estimates.

All models included controls for child sex and age, parent's age, and geography (not shown).

\* $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$

Source: Adapted from Statistics Canada, Special tabulation, based on 2006 Aboriginal Peoples Survey. All computations, use and interpretation of these data are entirely that of the author(s).

Parental education was found to be associated with parental residential school attendance (Path a), but not with children's school success (Path b—criterion for mediation not met). Living arrangements and eating breakfast every day were not associated with parental residential school attendance (Path a—criterion for mediation not met).

In sum, these findings indicate that parents who were former residential school attendees were more likely to have lower income; to live in larger households; and to report that their family had experienced periods of food insecurity. These characteristics were, in turn, found to be negatively associated with children's school success.

## Discussion

This study provided insight into some of the factors associated with how well off-reserve registered Indian children aged 6 to 14 were doing at school, as perceived by parents. Findings highlight a number of associations between perceived school success and children's family characteristics, housing conditions, and nutrition, as well as use of an Aboriginal language. Future research on these topics could provide additional information regarding potentially important areas for educational programs and policies.

When all other variables in the analysis were held constant, boys and older children were found to be less likely to be doing well at school, as compared to girls and younger children. Factors positively associated with off-reserve registered Indian children's school success included living in households at the highest

income range, living in adequately maintained dwellings, and using an Aboriginal language at home. Factors negatively associated with these children's school success included living in relatively large households, and having experienced food insecurity. Finally, replicating the findings observed in recent studies, off-reserve registered Indian children whose parents attended residential school were found to be less likely to be doing well at school, as compared to children whose parents had not attended these institutions.

Results from our mediation analyses revealed that the negative intergenerational effect of parental residential school attendance was, at least in part, attributable to some household- and nutrition-related characteristics. Indeed, parents who were former residential school attendees were found to be more likely to live in households with a lower income; to live in larger households; and to report that their family had experienced periods of food insecurity. These characteristics were, in turn, found to be negatively associated with children's success at school (as perceived by parents). Interestingly, parents who were former residential school attendees were found to strongly believe in the importance of education for their children. Parental expectations regarding their child's education were therefore not retained as a potential mediator in the relationship between parental residential school attendance and children's school success.

Taken together, these results suggest that off-reserve registered Indian children whose parents attended residential schools were less likely to do well at school, and point to three potential pathways that may partially explain this relationship. Little in-depth analyses have been done thus far regarding the indirect effects of residential schools on today's Aboriginal children and youth; this study helps us better understand some of the mechanisms likely at play in the association between parental residential school attendance and children's success at school.

Other pathways could be involved which could not be analyzed in the present study. Indeed, some scholars have discussed a number of emotional and psychological long-term consequences of residential school attendance (see Brasfield 2001; Dion Stout and Kipling 2003). Undoubtedly such factors could also help explain the observed negative intergenerational effect of parental residential school attendance; however, the 2006 APS on Children and Youth does not allow such analysis to be undertaken. Future research on these pathways could add to our understanding of the factors involved in the association between parental residential school attendance and children's success at school.

## **Limitations**

A number of challenging findings emerged in the present study with regard to parental level of education and residential mobility. Indeed, contrary to what is typically observed in research on school achievement in the general as well as in the Aboriginal population, these factors were not found to be associated with off-reserve registered Indian children's perceived school success in the present

study. This absence of association could be explained by limitations in how these constructs were measured in the 2006 APS.

For instance, the residential mobility variable—which is actually a 2006 census variable that has been linked to the 2006 APS—consists of a rather narrow measure of a family’s mobility patterns. The only information available is whether or not the family’s usual place of residence on census day corresponded to the family’s place of residence one year earlier.<sup>28</sup> Movers were not asked how many times they had moved in the previous year, or if their children had to change schools due to the family’s mobility. Moreover, no other information is available regarding whether or not the move resulted in a loss of networks for families to rely on and use for support, or regarding what triggered the move. More suitable data are needed to adequately explore the complex relationship between mobility and education outcomes (see Beavon, Wingert, and White 2009).

The lack of association between parental level of education and children’s school success is harder to understand. One possible explanation for this finding is that the parental education variable actually corresponds to the highest level of education attained by the parent answering the survey, and may not correspond to the household’s highest educational level.

Other limitations to the present study include the subjective nature of the school success measure that was used. Objective measures of educational achievement, such as standardized test scores or actual report cards, are not available from the 2006 APS on Children and Youth and, therefore, could not be considered in this analysis. Different results than those observed in the present study could be obtained using more objective measures of school achievement. Future data collection efforts related to education should try to include more objective assessments of children’s educational achievement.

It is also important to emphasize that the direction of the relationship between perceived school success and the factors under investigation in the present study is difficult to determine. Results are best interpreted as highlighting correlations between variables.

Furthermore, school achievement is influenced by students’ experiences over many years, whereas the APS captures these experiences as reported at a single point in time. For this reason, the cumulative effect of specific factors on how well off-reserve registered Indian children were doing at school could not be analyzed.

Finally, the 2006 APS on Children and Youth does not have data on the schools that the children are attending. This lack of school-level or institution-based data (such as curriculum, program design, classroom structure and climate, size of the Aboriginal student population within the school) prevented us from including such factors in the analysis. Future research on these topics could provide important additional knowledge on other factors associated with how well off-reserve registered Indian children are doing at school.<sup>29</sup>

## **Conclusion**

Even though the educational profile of Aboriginal people in Canada has generally improved over the past decades, their rates of high school completion continue to be lower than that of the total population. This study looked at the school success and circumstances of off-reserve registered Indian children aged 6 to 14 and provided insight into some factors associated with their educational outcomes. Further research on the circumstances leading to higher or lower school success in the Aboriginal population is necessary to gain a better understanding of their lower educational profile, as well as to inform potentially important areas for educational programs and policies.

## Endnotes

- 1 Paper funded by the Strategic Research and Analysis Directorate, Indian and Northern Affairs Canada (INAC).
- 2 The 2006 Aboriginal Peoples Survey covers the Aboriginal population living off-reserve in the ten provinces, and all Aboriginal peoples living in the Yukon, Northwest Territories, and Nunavut.
- 3 The median income of a specified group of income recipients is that amount which divides their income size distribution into two halves, i.e., the incomes of the first half of individuals are below the median, while those of the second half are above the median. Median income here is based on total income. Total income refers to the total money income received from the following sources during the calendar year 2005 by persons 15 years of age and over: wages and salaries (total); net farm income; net non-farm income from unincorporated business and/or professional practice; child benefits; Old Age Security pension and Guaranteed Income Supplement; benefits from Canada or Quebec Pension Plan; benefits from Employment Insurance; other income from government sources; dividends, interest on bonds, deposits, and savings certificates, and other investment income; retirement pensions, superannuation and annuities, including those from RRSPs and RRIFs; other money income.
- 4 Aboriginal status was based on responses to NPHS questions on race (or colour) and the ethnic (or cultural) groups with which respondents identified. Those who indicated Native or Aboriginal peoples of North America, such as North American Indian, Métis, Inuit, or Eskimo, were considered to be Aboriginal persons. The NPHS includes only Aboriginal people living off-reserve.
- 5 In this research, the term “Aboriginal” refers to students who have self-identified as being of Aboriginal ancestry on the annual British Columbia Ministry of Education student data collection form. These students may include First Nations, status or non-status Indians, Métis, or Inuit.
- 6 The 2002–03 First Nations Regional Longitudinal Health Survey sample was designed to represent the First Nations population living in First Nations communities in all provinces and territories except Nunavut.
- 7 In the census and the APS, people identified as “North American Indian”; however, the term “First Nations” is used throughout this report.
- 8 The remaining 2% had missing gender data.
- 9 All estimates in this report were calculated using sample survey weights and bootstrap weights to obtain the correct variance estimates.
- 10 An urban area is defined as an area with a population of at least 1,000 and no fewer than 400 persons per square kilometre. Rural areas include all territory lying outside urban areas. The number of children living in Inuit Nunaat (Inuit homeland) was too small to be analyzed separately. These children were included in the proportion living in rural areas.
- 11 The Territories includes Yukon, Northwest Territories, and a very small number of children in Nunavut. The Atlantic region includes Newfoundland and Labrador, Prince Edward Island, Nova Scotia, and New Brunswick.
- 12 This issue is not unique to the APS. Because the practices, usages, and capacity regarding the collection of Aboriginal education data vary widely across jurisdictions, there is also a dearth of national-level data regarding the school achievement of Aboriginal children in Canada.
- 13 The 2006 APS does not contain information on whether or not children have repeated a grade; this age-grade appropriateness measure provides some indication of whether or not students are behind the norm for their age. It is based on a measure from White, Maxim and Spence (2004) where:  $AGEGRADE = ([age\ in\ years\ minus\ 7] - grade)$ . If  $AGEGRADE \geq 0$ , the child is in a grade that is not appropriate for his/her age. If  $AGEGRADE < 0$ , the child is in a grade that is appropriate for his/her age.
- 14 The most commonly reported reason for having missed school for more than two weeks in a row was “child was sick or injured” (31%), followed by “family trip” (11%).
- 15 In a 2002 study, White and Maxim found that age-grade appropriateness rates were higher among younger than older students, with about 91% of Aboriginal students (on-reserve) in grades nine or lower being age-grade appropriate; this rate dropped to about 55% in the high school grades

(cited in White, Peters, and Beavon 2009). Similar trends were found in the present study, namely that younger children were more likely to be in a grade that was appropriate for their age than older children.

- 16 These differences were considered to be statistically significant as the 95% confidence intervals around the estimates did not overlap.
- 17 Data from the National Longitudinal Survey of Children and Youth (NLSCY, Cycle 4, 2000–01) were used. Comparable data for all children in Canada aged 6 to 14 are not available for 2006. The target population of the NLSCY comprises the non-institutionalized civilian population (aged 0 to 11 at the time of their selection) in Canada’s ten provinces, which, unlike the Aboriginal Peoples Survey, does not include children from the territories. The NLSCY excludes children living on Indian reserves or Crown lands, residents of institutions, full-time members of the Canadian Armed Forces, and residents of some remote regions.
- 18 “Crowding” is defined as more than one person per room. Crowding is thus derived by dividing the number of people in the dwelling by the number of rooms in the dwelling. The 2006 APS only asks about the number of people living in the dwelling; it does not ask about the number of rooms. It is therefore not possible to derive an indicator of crowded living conditions strictly with the 2006 APS.  

There is the possibility of deriving crowding by using the census variable “number of rooms” (ROOMS) with the APS variable “number of people in the dwelling.” However, the main problem in doing this is that the child may have moved between census date and survey date, or the household composition may have changed.

One could also potentially use the census household size variable NUNITS with ROOMS and attach these two variables to the APS file. Deriving crowding based on NUNITS and ROOMS would be more meaningful because these were measured at the same time. At the time of analysis, however, only the census variable ROOMS was attached to the APS file.
- 19 Census subdivision (CSD) is the general term for municipalities (as determined by provincial/territorial legislation) or areas treated as municipal equivalents for statistical purposes (e.g., Indian reserves, Indian settlements, and unorganized territories).
- 20 It is important to note that this data is for the parents of off-reserve Registered Indian children between the ages of 6 to 14. As such, this data may not include older individuals whose generation was more likely to have attended residential school, given that the last residential school stopped operating in the 1990s.
- 21 Odds ratios were used. Odds ratios are interpreted as the change in the probability (or odds) of doing “very well” or “well” at school given a one-unit change in the predictor.
- 22 Also included in the full model were controls for parents’ age and geography. Older parents were found to be less likely to report that their child was doing “very well” or “well” at school. As compared to the Atlantic region, parents in Alberta were found to be less likely to report that their child was doing “very well” or “well” at school.
- 23 This difference was considered to be statistically significant as the 95% confidence intervals around these estimates did not overlap.
- 24 See endnote 22.
- 25 See endnote 22.
- 26 See endnote 22.
- 27 See endnote 22.
- 28 The census variable “place of residence five years ago” is also attached to the 2006 APS file. Analyses were made using this variable and did not yield any significant results.
- 29 Editor’s note: This is consistent with observations that community and familial context has an important influence on educational attainment (see White and Beavon 2009).

## References

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