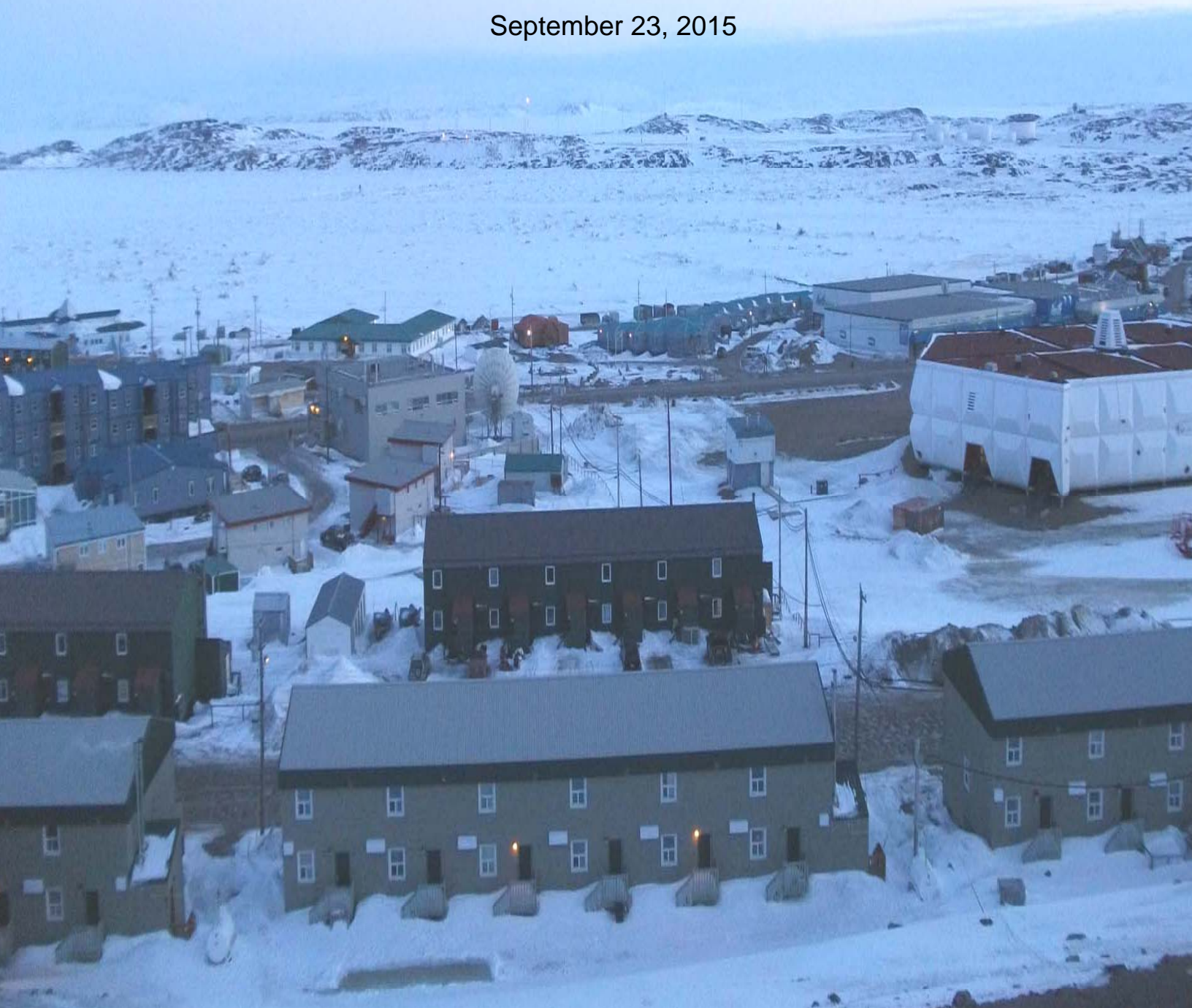


# Cultivating the Arctic's Most Valuable Resource: An Analysis of the Barriers to High School Completion Among Youth in Nunavut

Melanie O'Gorman and Manish Pandey  
Department of Economics, University of Winnipeg  
Corresponding author: [m.ogorman@uwinnipeg.ca](mailto:m.ogorman@uwinnipeg.ca); (204)786-9966

September 23, 2015



# Acknowledgments

First and foremost we would like to thank all participants of our survey. These youth took the time to reflect on their experience in the Nunavut high school system and this report summarizes their insights.

We are very grateful for the funding provided by the Social Sciences and Humanities Research Council (SSHRC) which supported this project.

We appreciated the assistance of many individuals with this study over the past three years. We thank Kathk Okpik for her guidance throughout the process, Mosha Cote who assisted us since we first began planning the project, Nikki Eegeesiak and Sharon Edmunds-Potvin who provided us with feedback on our questionnaire, Shelly Pepler, Rob Filipkowski and Bill Cooper for guidance on who to contact when, and Jack Anawak and Madeleine Redfern for general guidance on our study.

We would also like to thank the following individuals who gave generously of their time to assist Melanie within the communities she visited, including:

- Kugluktuk - Christabelle Westwood and other members of the Kugluktuk DEA, Gary Kennedy, Mona Aviak, Lala Nivingalok, Jessica VanOverbeek, Mike Webster, Roshan Bilta, and Sarah Jancke
- Rankin Inlet – Stan Anderson and other members of the Rankin Inlet DEA, Jesse Payne, Howard Peach and CBC Rankin Inlet
- Igloolik – Francis Piugattuk and the entire Igloolik DEA, Sean Broderick, Patricia Tidd and Jo-Anne Idlout
- Hall Beach – Goretti Morgan and the entire Hall Beach DEA, John Sarapnickas and Jeff Duchene
- Iqaluit – Andrew Tagak Sr. and the entire Iqaluit DEA, Terry Young, Romeyn Stevenson, Jay Thomas, Kelly Giesbrecht, Sabrina Sherman, Bethany Scott, Natan Obed, Sharon Angnakak, Sharon Edmunds-Potvin, Jasmine Redfern, Jeannie Arreak-Kullualik, Allyson Story, John MacDonald, Brad Chambers, Brad Archambault and Taylor LaVallee

Finally we appreciated the hard work of our research assistants Abdul Baten, Farzana Islam, Joyce Riungu and Behnaz Alimohammadisagvand who helped with many aspects of this project.

# Table of Contents

<b>EXECUTIVE SUMMARY</b>	<b>4</b>
<b>1 INTRODUCTION</b>	<b>7</b>
<b>2. ECONOMIC INCENTIVES FOR COMPLETING A HIGH SCHOOL EDUCATION</b>	<b>9</b>
<b>3. NUNAVUT SURVEY</b>	<b>10</b>
<b>3.1 Consultation and Dissemination</b>	<b>10</b>
<b>3.2 Basic characteristics of the data</b>	<b>11</b>
IN-SCHOOL SAMPLE	13
OUT-OF-SCHOOL SAMPLE	13
<b>4. QUALITATIVE ANALYSIS</b>	<b>13</b>
<b>4.1 Reasons for Missed Days of School</b>	<b>13</b>
<b>4.2 Reasons for Dropping Out</b>	<b>15</b>
<b>4.3 Importance of a High School-Educated Community</b>	<b>16</b>
<b>5. REGRESSION ANALYSIS</b>	<b>16</b>
<b>5.1 In-school sample</b>	<b>16</b>
<b>5.2 Out-of-school sample</b>	<b>20</b>
<b>6. CONCLUSIONS</b>	<b>21</b>
<b>REFERENCES</b>	<b>24</b>
<b>APPENDIX 1: WAGE PREMIA FOR SPECIFIC INDUSTRIES AND OCCUPATIONS</b>	<b>27</b>
<b>APPENDIX 2: SURVEY VARIABLES</b>	<b>29</b>
<b>APPENDIX 3: SUMMARY STATISTICS</b>	<b>30</b>
<b>APPENDIX 4: ADDITIONAL QUALITATIVE RESPONSES</b>	<b>35</b>
<b>APPENDIX 5: REGRESSION RESULTS</b>	<b>38</b>
<b>ENDNOTES</b>	<b>40</b>

# Executive Summary

Nunavut's low high school graduation rate is extremely concerning from an economic and social point of view. In this report we address the following question: what initiatives and policies are needed to ensure a higher rate of high school completion among Nunavut youth? We address this question by conducting a survey of Nunavut youth themselves to determine the reasons for dropping out of high school. This report summarizes the results of a survey conducted with 570 youth from 5 Nunavut communities in the Spring of 2013. The survey consisted of questions regarding many aspects of a youth's life – their friends, home life, parents/guardians, school experiences and views on schooling.

Using this survey, we investigate which factors are important in determining whether a student misses days of school, whether they think about dropping out of school and whether they actually drop out of school. We find, not surprisingly, that a wide range of factors influence the decision of whether a youth exits school early or not. However we find that the quantitatively important factors leading to dropout risk involve a youth's relationships, especially those with their parents and friends. The level of support a child's parents provide for their schooling and their friends' commitment to school influences each aspect of that child's risk of dropping out of school. For example:

- Our analysis of the in-school sample of youth reveals that a student whose parents encourage them to go to school every day is 27% less likely to miss any days of school and 26% less likely to ever think of dropping out of school.
- Our qualitative study suggests that sleeping in and staying up late – behaviours parents can influence - are key reasons for missing school days in Nunavut.
- Analysis of the out-of-school sample indicates that a youth is 28% more likely to have missed days of school and 18% more likely to have actually dropped out of high school if they had friends who dropped out of school.
- A student that is a member of a gang is 23% more likely to think about dropping out of school compared to a student that is not a member of a gang.

These relational effects are much stronger than those often associated with high school dropout in the literature. For example, the influence of parents and peers outweighs the influence of substance abuse, language or gender. At first glance this may seem a discouraging conclusion, as a youth's relationships cannot be amended by a new policy or school program. However these findings suggest that the parental mobilization initiatives that are part of the National Inuit Education Strategy are crucial.<sup>1</sup>

Further, the finding that a youth is more likely to drop out of school if their friends have suggests that efforts that keep only a few students in class may be successful in keeping many students in school, given the strength of peer effects we have found. We find that many school-related factors, which are policy amenable, have large potential impacts on the probability of high school dropout, for example:

- Students are 20% less likely to miss days of school if their teacher uses a computer in the classroom.
- A youth is 20% less likely to consider dropping out of school if they participate in school activities such as sports or school council.

- Students that have gone on a school trip are 18% less likely to miss days of school
- Failing a grade is associated with a 12% higher chance of dropping out of school and a 20% higher chance of missing days of school.

In our qualitative study, the most common reason cited for dropping out of school was having a baby. Not having access to daycare was also cited as an important reason for dropping out. This affirms the importance of ensuring access to daycare for high school-aged parents. This could be addressed through an investigation into the utilization of the Young Parents Stay Learning program. If this program is being underutilized as the general daycare subsidy is, the Department of Education should find ways to reduce barriers to uptake of the subsidy or to increase awareness of it.<sup>ii</sup> Attendance at daycare is also highly correlated with eventual school success – a student that has attended daycare is 25% less likely to miss days of school, likely highlighting the importance of early childhood education.

With regard to their home life, we find that a child that has sufficient food to eat, a bed of their own and a quiet place to study is 13% more likely to graduate and 13% less likely to miss days of school. This turns initiatives such as Nutrition North Canada and its needed reform into education policy.<sup>iii</sup> The Nunavut Food Security Strategy highlights many initiatives that could improve food security in the Territory, such as increased support for harvesters providing country foods, stable funding for Breakfast Programs in schools and the creation of more community food centers. It also underscores the need for increased Federal funding for social housing in Nunavut, to address the long list of families waiting for affordable housing.<sup>iv</sup>

The majority of youth we spoke to recognized the importance of a high school diploma. Key reasons they cited for this importance were the easier ability for one to secure a job, especially for Inuit youth, and more generally access to more opportunities. They noted that more high school graduates in Nunavut could lead to reduced poverty and hunger and more university and college-educated individuals. In Section 2 of this report we find very large economic benefits from high school graduation in Nunavut, hence alerting students to these high economic returns to a secondary school diploma may improve graduation rates. For example, a lesson on the job opportunities and earnings premia for high school graduates could be incorporated into Aulajaaqtut in grade 9.

Our findings reveal which interventions are most likely to have a large impact on high school attendance and graduation rates in Nunavut. These are listed below:

- Recommendations for schools:
  - o Make family engagement a top priority – give it the resources and time needed to make it effective.
  - o Increase the number of school trips per year and classrooms with computers – these investments are highly correlated with school attendance.
  - o Increase efforts to get students more involved in school activities such as sports, student council or school dances.
- Recommendations for DEAs:
  - o Serve as a strengthened liaison between parents and schools, for example by hosting Elders' discussions or a school/parent orientation event in September. Invite parents to contact their child's teachers, principal and other school staff.

- Recommendations for the Department of Education:
  - Ensure sufficient start-up and annual operations funding for new daycares in communities where they are lacking. Improve utilization of the daycare subsidy, especially for young parents.
  - Increase funding of student support teachers, student support assistants and Inuksiutilirijiit to ensure students who need extra support or enrichment get the individualized attention they need.

Overall our report underscores the need for concerted efforts, especially by parents, but also by the District Education Authorities, the Department of Education, the Government of Nunavut and the Federal Government, to reduce the absolute number of children exiting school early. Given our finding that peer effects are important in the Nunavut context, the reward to these efforts is likely to be immense.

# 1 Introduction

The objective of this study is to uncover the key determinants of low high school graduation rates among youth in Nunavut. As demonstrated in Table 1, Nunavut has by far the lowest high school graduation rate of all Canadian provinces and Territories. This paper investigates the anomaly of the Nunavut high school completion rate using a survey of youth in 5 Nunavut communities. The purpose of this report is to present the findings of this survey, to assist discussions of policymakers, educators and citizens on what could be done to increase high school graduation in Nunavut.

	Aged 25-64	Aged 25-34
Canada	89	92
Newfoundland and Labrador	82	92
Prince Edward Island	86	93
Nova Scotia	87	93
New Brunswick	85	92
Quebec	86	90
Ontario	91	94
Manitoba	86	91
Saskatchewan	86	91
Alberta	90	91
British Columbia	91	93
Yukon	87	90
Northwest Territories	81	82
Nunavut	57	58

Source: Organization for Economic Co-operation and Development (OECD), Education at a Glance 2014: OECD Indicators – Table A.1.2.

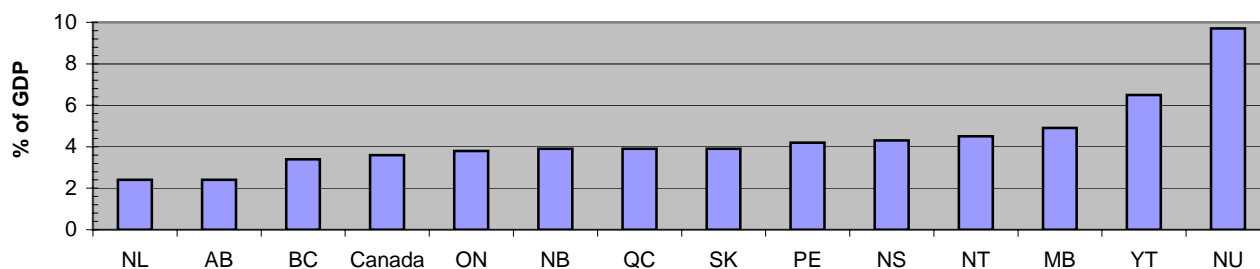
With the highest birth rate in Canada, Nunavut is the youngest region in the country.<sup>v</sup> The high rate of high school dropouts thus entails that a large proportion of the residents of Nunavut are seeing their education cut short - and potentially missing out on important social and economic benefits. Further, given the recent surge in interest in Nunavut due to the pace of climate change and increased resource exploration, opportunities for skilled labour abound in the Territory. If local inhabitants are to avail of such positions, a high school diploma is essential. In this report we shed light on a crucial question concerning Nunavut's education system: what initiatives and policies are needed to ensure a higher rate of high school completion among Nunavut youth?

Our survey was conducted in Hall Beach, Igloolik, Iqaluit, Kugluktuk and Rankin Inlet in Spring 2013. It consisted of personal interviews with youth currently in high school and with individuals that have dropped out or graduated from high school. Youth were asked about their attendance at school, resources at school, their home life, peers and their personal wellness. We analyze the data from this survey to determine which factors - whether characteristics related to the youth themselves, their parents or friends, or their

school system are most correlated with distaste for school, absenteeism or actual dropout. We find that variables for all categories are important, however that the influence of social relationships is quantitatively most important.

Often high dropout rates are thought to be associated with low expenditure on schooling (and low quality education). For example, in the case of on-reserve schooling in Canada, low spending per student on reserve is thought to be responsible for the gap in high school graduation with youth off-reserve.<sup>vi</sup> Nunavut however spends a great deal per student. Indeed, as demonstrated in Figure 1, in 2006 Nunavut spent the most as a proportion of GDP (9.9%) relative to all other provinces and territories.<sup>vii</sup>

**Figure 1: Public and private expenditure on primary, secondary and post-secondary non-tertiary educational institutions as a percentage of GDP (2006)**



Sources: Statistics Canada (2015)

Keeping kids in school thus requires much more than money. The literature suggests that it requires a supportive home environment, appropriate curriculum, motivated teachers, a peer group committed to staying in school, among others.<sup>viii</sup> Accordingly our study takes a broad view of the potential determinants of high school graduation in Nunavut.

A high dropout rate from high school is concerning for both economic and social reasons. For example, students in Canada, the U.S. and the U.K. were found less likely to report poor health or to feel depressed with additional schooling.<sup>ix</sup> A wide range of social benefits accrue to educated individuals and societies, including reduced crime, improved parenting techniques or increased political participation and awareness.<sup>x</sup> In many Inuit communities, including those in Nunavut, schools are places where indigenous knowledge is passed from generation to generation.<sup>xi</sup> When students exit the schooling system early, the cultural revitalization that is so important to contemporary Inuit communities in Canada is reduced.

There is a large academic literature on the determinants of high school dropout. One subset of this literature stems the economics literature, which identifies key determinants of high school dropout for various contexts.<sup>xii</sup> These factors include an unstable family life or being raised by a single parent, cultural discontinuity with one's school, schools' academic streaming which seems to pre-determine success, parents' lack of education or low skill occupational status, and teenagers' high time discount rate. The education literature also proposes a large number of barriers to Aboriginal education specifically in Canada.<sup>xiii</sup> Suggested barriers include poor school quality, the lack of mother



tongue instruction in schools, perceived low economic rewards from schooling and a lack of community ownership of schools.

While a subset of the literature on educational attainment noted above has, qualitatively, identified important mechanisms leading to early high school exit in Nunavut communities, our data allows us to examine the quantitative importance of the various factors put forward. Such a ranking is crucial given that the Nunavut education system is currently in a state of flux, attempting to navigate what seems to be a delicate balance between a culturally-sensitive curriculum and academic achievement. In an earlier paper we use the Aboriginal Peoples Survey (APS) to identify factors causing higher secondary school dropout in the Canadian North relative to the South.<sup>xiv</sup> The APS however lacks a wide range of economic, educational and sociological variables, including those that have been cited in the literature as being potentially important for explaining high secondary school dropout. Our survey provides data on such variables. Although ethnographic studies collecting economic, sociological and educational information have been conducted in the U.S., this is the first such study for the Nunavut context.

In the next section we examine the differences in the economic incentives for graduating from high school between Nunavut and the rest of Canada. Section 3 introduces our data, while Section 4 discusses the results of the qualitative analysis for the open-ended questions in our survey. The results of our regression analysis for the in-school sample and out-of-school samples are presented in Section 6. Section 7 concludes.

## 2. Economic Incentives for Completing a High School Education

A straightforward question that arises upon witnessing the high rates of high school dropout in Nunavut is whether or not it makes economic sense to complete a high school diploma. In other words, perhaps dropping out of high school is a rational economic decision. We investigate this hypothesis using the 2000 and 2005 Aboriginal Peoples Survey (APS).<sup>xv</sup> The APS provides data on the social and economics conditions of Aboriginal people in Canada aged 15 and older.

In Nunavut the unemployment rate in June 2014 was 14.3% and in June 2015 it was 16.8%<sup>xvi</sup>. It could be the case that, amid such high unemployment, even high school graduates have trouble finding employment, thus decreasing incentives to stay in school. We investigate whether this is the case in Table 2.

	18-32 year olds		18-65 year olds	
	2000	2005	2000	2005
Rest of Canada	-8.6%	-8.6%	-4.6%	-4.6%
Nunavut	-13.6%	-8.6%	-7.1%	-8.5%

Source: Statistics Canada (2000, 2005)

We see that high school graduates had a better chance of obtaining a job than non-graduates in both 2000 and 2005, for both age groups considered. This advantage was greater in Nunavut relative to the rest of Canada.<sup>xvii</sup>

It could however be that jobs, despite being more abundant for high school graduates, do not pay enough to justify the investment in a high school education. In Table 3 we calculate average earnings for non-graduates and for high school graduates for Nunavut and the rest of Canada. We see that high school graduates all across Canada earn more than their non-graduate counterparts. However high school graduates in Nunavut earn much more on average in both years considered.

<b>Table 3: Average Earnings of High school Graduates/ Average Earnings of Non-Graduates<sup>xviii</sup></b>				
	18-32 year olds		18-65 year olds	
	2000	2005	2000	2005
Rest of Canada	1.25	1.22	1.20	1.23
Nunavut	1.95	1.82	1.73	1.67

Source: Statistics Canada (2000, 2005)

### 3. Nunavut Survey

#### 3.1 Consultation and Dissemination

We visited Iqaluit in late April 2012 and spoke with staff of the Nunavut Department of Education, an Iqaluit District of Education Authority (DEA) member, staff of the Arctic College, politicians, youth as well as teachers. We chose Iqaluit given its relatively large population compared to other municipalities, and because institutions of interest to us are located there. Principal Terry Young gave Melanie a tour of Inuksuk high school. She also held a focus group at the Nunavut Research Institute (NRI) on April 24, 2012, which consisted largely of individuals from the Nunavut Department of Education. This focus group involved a discussion of participants' views on interventions or policy changes that would improve high school retention; participants' advice on the questions we should ask in a survey of high school-aged youth; the best method for finding eligible and willing participants; and guidance on the hypotheses we should be testing with the data that arises from our survey. These meetings provided us with a great deal of guidance on our survey.

We were also advised on the communities we should conduct the survey in. The consensus was that we should survey individuals in a relatively large community (Iqaluit) and a relatively small community (Hall Beach), and also at least one community from each of the 3 regions in Nunavut. As a result we decided to conduct the survey in 5 communities: Kugluktuk in the Kitikmeot region; Hall Beach, Igloodik and Iqaluit in the Qikiqtaaluk region and Rankin Inlet in the Kivalliq region.

We then began consultations with individuals in these 5 communities regarding the timing of our visit to conduct the survey. A draft questionnaire was given to each DEA in the communities listed above for their review and feedback. Before conducting the survey Melanie also spoke to Elders, Kathy Okpik, Deputy Minister of Education and

representatives from the Qikiqtani Inuit Association and the Nunavut Council of District Education Authorities for feedback. We also obtained permission to conduct the survey from the DEAs, and informed the Executive Director of School Operations for each region of our survey.

The survey was conducted in March 2013 in Kugluktuk, April 2013 in Rankin Inlet and May 2013 in Hall Beach, Igloolik and Iqaluit. Respondents had to be between 14 and 32 years old, as only individuals less than 32 years of age would have been educated in Nunavut rather than the Northwest Territories. Each respondent was paid \$25 for completing the survey, and could choose to be interviewed or fill out the survey themselves (most chose the latter).

In each community we interviewed individuals in school and out-of-school. To find out-of-school individuals we visited places of work (e.g. government offices and the Arctic College), grocery stores (Northern Store and the Co-op stores) and recreation centers. We also advertised our study on the radio in each community.

After the survey was conducted in each community we performed a preliminary analysis of the results. Melanie then returned to Iqaluit in October 2014 to disseminate these preliminary results and to obtain feedback on them from education stakeholders. She presented them to staff of the Department of Education, Inuksuk High School staff and students and Nunavut Tunngavik Inc. (NTI) staff. She was scheduled to present to the Iqaluit DEA however the meeting was cancelled. Feedback from this visit has been incorporated throughout this report.

### 3.2 Basic characteristics of the data

Table 4 presents basic information on our data. It illustrates that our sample is fairly evenly split between in and out-of-school respondents, allowing us to analyze dropout risk for both sub-samples. Our out-of-school sample replicates the large proportion of youth that leave school in grade 10, and the roughly even split between females and males in the population. Table 5 demonstrates that all five communities have very young populations. However the communities differ quite starkly not just in size but in average income and school attendance. Hall Beach and Igloolik have very low average attendance rates compared to the other 3 communities, while Iqaluit and Rankin Inlet are much richer on average compared to the other 3 communities.

<b>Table 4: Basic Characteristics of Survey Data</b>		
	Number of respondents	Percent
In school	310	54%
Out of school	260	46%
	Grade of dropout	
Below grade 8	10	4.7%
Grade 8	8	3.7%
Grade 9	31	14.4%
Grade 10	78	36.3%
Grade 11	63	29.3%
Grade 12	25	11.6%

Table 4 continued: Basic Characteristics of Data Communities		
Iqaluit	216	38%
Rankin Inlet	128	22%
Kugluktuk	87	15%
Igloolik	69	12%
Hall Beach	74	13%
Demographic Characteristics of the Data		
	Out-of-school	In-school
Mean Age	26.4	17.1%
Proportion Inuk	99.3%	92.2%
Proportion Female	52.6%	53.7%
Source: Authors' calculations using survey data		

Table 5: Community Characteristics			
	Attendance Rate (2013/14)	Median Income (2012)	Proportion of population Aged 15-24 (2013)
Hall Beach	64.5	\$20,020	20.7
Igloolik	68.7	\$23,700	19.5
Iqaluit	81.8	\$64,260	12.3
Kugluktuk	83.3	\$22,750	19.6
Rankin Inlet	83.4	\$39,080	21.1
Source: Department of Education, Government of Nunavut. Prepared by: Nunavut Bureau of Statistics, July 2, 2015			

We collected information on respondents in 4 main categories. For the in-school sample the questions referred to the present, while for the out-of-school sample all questions referred to their last year of high school:

1. Individual-specific factors - These are variables in the questionnaire that referred only to the respondent themselves, concerning their home life, language ability, use of alcohol/drugs, leisure activities and relationships with friends.
2. Parental variables - We asked respondents about their parent/guardian's level of schooling, whether their parent encourages them to go to school, whether their parent has a formal sector job and the amount of time their parent spends with them on their homework.
3. Friend-related - Our questionnaire queried respondents regarding whether they had many friends and whether their friends were committed to school
4. School-related - Questions were asked of interviewees related to their school experience such as whether they went to daycare, went on a school trip etc.

All variable names and descriptions are provided in Appendix 2. In our formal analysis below, we investigate factors associated with a youth considering dropping out of high school (for our in-school sample) and factors associated with dropping out of high school (for our out-of-school sample). The group of students considering dropping out of school differs in many significant ways from the group of students who have never questioned

their commitment to high school. The same can be said for the high school graduates relative to the non-graduates in the out-of-school sample. In this subsection we discuss the key ways that these subgroups of our data differ.

### *In-school sample*

The largest differences between those students that have thought of dropping out of school (we refer to this group below as the ‘at risk’ students) and those that have never considered dropping out are in terms of:

- Substance abuse, with ‘at risk’ students engaging in greater drug and alcohol use
- Parental education, with parents of ‘at risk’ students having less education
- One’s friends dropping out of high school, with ‘at risk’ youth having more friends that have dropped out

In Section 5 we investigate whether these differences are indeed significant once we control for other variables. Appendix 3 provides the means of all variables by ‘at risk’ status.

### *Out-of-school sample*

Next we discuss means for variables for graduates relative to non-graduates for the out-of-school sample, where all questions in the survey referred to the interviewee’s last year of school. We find the largest differences between these two groups in terms of:

- The proportion of out-of-school graduates reporting that they had sufficient food at home when they were in school relative to the proportion of non-graduates reporting the same is relatively large.
- Graduates also report engaging in more activities outside school and extra-curricular activities in school relative to non-graduates.
- A greater proportion of high school graduates had parents with formal sector jobs while they were in high school relative to non-graduates.
- Finally, a greater proportion of high school graduates attended day care relative to non-graduates

Appendix 3 also provides the means of all variables by ‘non-graduate’ status.

## **4. Qualitative Analysis**

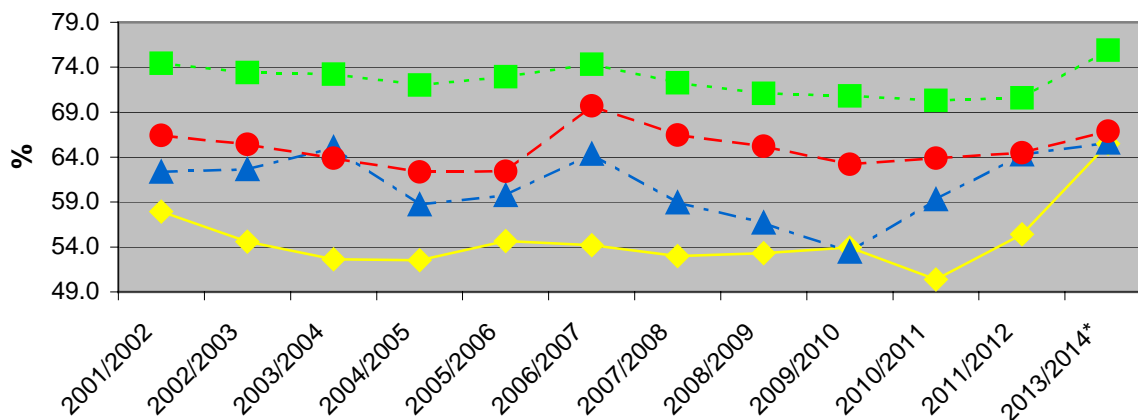
In this section we highlight youth responses to open-ended questions in our survey. This helps to highlight potential determinants of high school dropout that we may have missed in our questionnaire. We list the most-cited answers to the qualitative questions we asked below, and report additional individual responses in Appendix 4.

### **4.1 Reasons for Missed Days of School**

A report on the 2011-12 school year noted that the average attendance rate across Nunavut was 71.4%. Kathy Okpik, Deputy Minister of Education, noted that measured in terms of classes attended, this attendance rate would amount to three full school years missed during a child’s education between kindergarten and the end of high school.<sup>xix</sup> Low attendance is thus a crucial issue for Nunavut educators and policymakers. In Figure 2

below, we present the attendance rate for all Nunavut schools by grade. We note that attendance rates are extremely low for high school grades.

**Figure 2: Attendance in Nunavut High Schools**



Source: Department of Education, Government of Nunavut (accessed through <http://www.stats.gov.nu.ca/en/Social%20education.aspx>)

Legend: Grade 10 (Yellow diamonds), Grade 11 (Blue triangles), Grade 12 (Red circles), All Grades (Kindergarten to Grade 12) (Green squares)

Below we note the top reasons for missing days of school among both the in- and out-of-school samples. Specifically, we asked respondents “When you missed days of school, what is the main reason that you were absent from school?” Attendance reflects students who are present - a student is 'present' if they arrive on time and do not leave school early. The attendance rate is the percentage of total school days for which students attended school. This rate is calculated by dividing the total number of days for which students are marked present or late by the total number of scheduled school days.

**Top Reasons for Missing Days of School:**

- ✱ “I was often sick” – 27.1% of respondents
- ✱ “I slept in a lot” – 23.1% of respondents
- ✱ “I had to babysit” – 11.8% of respondents
- ✱ “I stayed up late” – 8.6% of respondents

There were many similar answers to this question. As noted above, the most common response was that a student was sick, a common reason for missing days of school in all jurisdictions. The next most common was ‘sleeping in’. There are a number of possible reasons for the high proportion of youth that miss school due to sleeping in. First, in the months and communities with mostly sunlight, children may stay up very late and then sleep in during the day. Recently Kugluktuk decided to experiment with an 8:30am siren to wake students up for the start of high school at 9am.<sup>xx</sup> This was suggested by a student, and comes after previous efforts to reduce truancy including a buddy system where students would be responsible for waking their friends up for school. Another possibility is that parents not formally employed may not adhere to a strict schedule and children may follow suit.<sup>xxi</sup> Last “rigid time structuring symbolizes EuroCanadian ways and might be resisted by some parents as a way of maintaining identity”<sup>xxii</sup>.

## 4.2 Reasons for Dropping Out

Next we analyze responses to the question “What is the main reason that you dropped out of high school?” As demonstrated by Table 6, the majority of youth drop out of high school before graduating.

2006	2007	2008	2009	2010	2011	2012	2013	2014
31.3%	32.4%	33.6%	38.0%	36.5%	34.9%	36.7%	33.3%	31.4%

\* The Department of Education provides information on the number of students who have completed secondary school ('graduates') at the end of each calendar year. This figure does not include those who have completed equivalency or upgrading programs. To calculate the graduation rate, the number of graduates for each year was divided by the number of individuals aged 18, the typical graduation age assuming that there are an equal number of individuals at each age between 15-24 years old.. The latter was estimated by dividing the population aged 15-24 for Nunavut by 10. Source: Department of Education, Government of Nunavut (accessed through <http://www.stats.gov.nu.ca/en/Social%20education.aspx>)

Common reasons put forward for dropping out of school among the out-of-school sample are noted below.

### Top Reasons for Dropping Out of School:

- ✧ “I had a baby/I had my son/daughter” – 14.3% of respondents
- ✧ “I was bullied” – 9.3% of respondents
- ✧ “I got involved with alcohol/drugs” – 8.8% of respondents
- ✧ “I had to babysit/I had no daycare” – 8.2% of respondents

Reasons put forward for this question were quite varied. A very large proportion of our sample indicating having a baby/needing to take care of one’s own child. If we combine this percentage with those stating that a lack of babysitting services prevented them from attending school (although some reported needing to take care of younger siblings) the percentage rises to 22%.

Bullying was also one of the prominent reasons put forward for why youth dropped out of school. Indeed 45% of youth in our study reported being bullied in school. This highlights the importance of recent anti-bullying efforts in Nunavut, such as the resource manual that is being developed for staff on establishing a positive school environment, and DEAs’ use of student codes of conduct.<sup>xxiii</sup> At Maani Ulujuk High School (the high school in Rankin Inlet) a healthy relationships program was recently initiated to help students deal with bullying. The program is in collaboration with the Red Cross and its goal is to “teach students and teachers about how to talk to students about healthy relationships, and to give students confidence about speaking up for themselves, confront the other person in the relationship about problems, and know when to ask for help”<sup>xxiv</sup>.

Substance abuse will be noted as a key factor in our quantitative analysis below. Indeed a study recently conducted in Nunavut revealed how widespread substance abuse is among youth in Nunavut, especially among girls.<sup>xxv</sup>

## 4.3 Importance of a High School-Educated Community

As we began this study and started speaking to other researchers and acquaintances about it, a common question posed to us was “Is a formal high school education widely valued in Nunavut?” Given the history of residential schools, the presumption was that perhaps parents, and consequently children, were rejecting schools as neo-colonizing institutions. As Berger (2007) notes, the influence of residential schooling on education in the Eastern Arctic was all-encompassing:

“Qallunaat schools—schools based on a EuroCanadian model—were established in the Eastern Arctic 50 years ago as instruments of Canadian colonial policy, designed by the federal government to force Inuit from the land into communities as part of a strategy to ensure Canadian sovereignty in the Arctic (Prattis & Chartrand, 1990; Tester & Kulchyski, 1994). Qallunaat schooling was imposed without consultation and replaced the Inuit ways of educating and socializing that were embedded “in the immediate practice of everyday Inuit life” (Nungak, 2004, p. 15). Initially staffed wholly by Qallunaat, schools were structured on southern Canadian norms, operated in English, used curriculum from the southern provinces, and were controlled from afar (Van Meenen, 1994). A foreign curriculum was being taught by foreigners in a foreign language (McAuley, 1991).” (page 2)

To test whether this proposition of our colleagues held weight, we asked the youth we interviewed “How might an increase in high school graduation be beneficial for your community?” An increase in the number of available jobs was the most common answer, followed very closely by the more general ‘opportunities’. Responses were almost uniformly positive however some youth were skeptical/pessimistic that high school graduation alone could bring any change to their communities, or simply said they didn’t know.

Top Responses to the Question: “Is an Increase in High School Graduation Beneficial for Your Community?”

- ✦ “It could create more jobs and lead to higher incomes” – 25.8% of respondents
- ✦ “It would develop greater opportunities in society” – 11.2% of respondents
- ✦ “It wouldn’t bring any change to have a higher graduation rate” – 9.0% of respondents
- ✦ “I don’t know” – 9.0% of respondents

## 5. Regression Analysis

### 5.1 In-school sample

While summary statistics are helpful for investigating the prominence of certain factors within a sample, we cannot comment on a factor’s ability to explain variation in our variable of interest. To do so we must use regression analysis, a statistical tool that helps one to understand the relationships between variables. It allows us to quantify the impact of multiple factors on our variables of interest, our ‘dependent variables’.



We first use regression analysis to analyze the in-school sample for key predictors of school dropout. For this sample there are two main dependent variables. The first is the response to the question: “Have you ever thought about dropping out of school? “. Those responding yes to this question can be deemed ‘at risk’ of dropping out of high school. The second variable of interest asks respondents how many days of school per week they miss on average. Educational stakeholders in Iqaluit indicated that poor attendance is a key predictor of dropout. We convert this into a variable taking on the value of 1 if the student has missed on average at least 1 day of school per week, and zero otherwise. Table 7 presents means for these two dependent variables.

<b>Table 7: Means of Dependent Variables for In-school Sample</b>	
Missed more than 1 day of school per week?	Thought of dropping out?
54.8%	27.9%
Source: Authors' calculations using survey data	

To determine the importance of our variables of interest in explaining differences in the two dependent variables just mentioned, we estimate a separate regression for each dependent variable mentioned above. This approach allows us to determine how much of the variation in the dependent variable can be accounted for by other variables in our data (our explanatory variables). Instead of examining the coefficient estimates of the regression, it is more intuitive to consider the effect of a marginal change in an explanatory variable on the dependent variable, the probability of missing at least a day of school per week or the probability of thinking of dropping out of school. Such marginal effects are computed for each explanatory variable with all other variables held at their mean values.<sup>xxvi</sup>

We initially consider the dependent variable indicating a student’s missing school days. The estimation results are presented in Appendix 5. However the factors that were found to be significant in determining missed school days are presented in Table 8. The statistical significance of the estimated coefficients indicates the importance of these variables in explaining variation in missed school days.

<b>Table 8: Dependent Variable: Missed school days</b>	
Factor	Marginal Impact on Probability of Missing School
Parents encouraged respondent to go to school	-26.60%
Respondent attended daycare/pre-school	-24.90%
Respondent uses a computer in school	-20.50%
Respondent has gone on a school trip	-18.20%
Respondent is involved with school activities	-16.80%
Respondent has friends that have dropped out of school	15.40%
Respondent has repeated/failed a grade	16.10%
Source: Authors' calculations using survey data	

The largest impact on truancy is a parent’s encouragement of the respondent to attend school. This variable takes the value of 1 if a respondent indicated that their parent always (‘each and every day’) encouraged them to go to school and zero otherwise. In

DEA meetings and schools across Nunavut, this is an important issue. Our study serves to indicate that parental encouragement is indeed quantitatively important for school attendance. Taylor (2007) provides many insights on the issue of parental involvement in the schooling of Inuit students, noting that to design a successful strategy to partner with parents, schools must understand the barriers to parental involvement that are unique to Inuit.<sup>xxvii</sup> He writes “Parents may well be motivated to support the schooling of their children, but a history of colonization and the recency of formal education in Inuit communities have rendered parents uncertain about how to support their children. Especially lacking is an understanding of the deep structure of the pedagogical process that is for the most part invisible.” (page 17)

Having friends who have dropped out of school increases the probability of truancy by 15%. This affirms the importance of peer effects – that a community may experience a persistently high dropout rate as groups of non-graduates pressure their friends to also withdraw from school. This is a variable that we will see is extremely important throughout this study.

The indicator of whether a youth has repeated or failed a grade was included to gain insight into the policy of Inclusive Education. According to this policy lagging students are to be provided with academic support to move forward to the next grade with their peers, to reduce the stigma associated with repeating a grade. Our finding that repeating a grade is positively associated with missing days of school likely reflects this stigma. The Auditor General’s report on the Nunavut Education Act recently criticized the implementation of Inclusive Education, indicating that “many students are socially promoted from grade to grade without having mastered the previous year’s material. This, the report said, was happening without the required assessment or support for individual students.”<sup>xxviii</sup> The Department of Education is now looking into ways to curb this ‘social promotion’, which would ensure that the policy has its intended effect.<sup>xxix</sup>

The fact that school activity participation reduces the chance of missing days of school by 17% likely indicates that such activities make school more enjoyable. School activities include sports, school dances, being on a school council or the wrestling team. Being on a sports team is the most common school activity as reported in Table A8 in the Appendix. The same can be said for using a computer in school and going on a school trip – they also likely make school (and learning) more enjoyable. What is surprising is the magnitude of these effects – they outweigh that of having an educated parent for example.

Finally attending day care is statistically significant and negatively associated with missed school days. It is well-known that early childhood is the time when the architecture of a child’s brain is still forming. “During this time, the healthy emotional and cognitive development of a child is shaped by responsive, dependable interactions with adults.” (NTI (2013)) For children who may have crowded conditions at home or who may be experiencing stress, early childhood programs can provide the safe, structured environment that allows for the development of executive function and self-regulation skills that allow a child to learn. Our finding of the importance of day care likely reflects this role of day care in early brain development.

Next we consider the dependent variable indicating whether a student has thought of dropping out of school - what we term their ‘at risk’ status. The full results are again

presented in Appendix 5, with the statistically significant factors and their marginal effects noted in Table 9.

A parent’s encouragement again causes a large reduction (26%) in the probability their child thinks of dropping out of school. However now a parent’s education level is negatively associated with the child’s considering dropping out of school. The dummy variable indicating whether either of the student’s parents has a formal sector job also has a significant effect on the probability of a student considering leaving school. Specifically if a parent has a formal sector job (high school education), a student is 13% (18%) less likely to consider dropping out of school. These two effects likely reflect the parent as a role model – if the parent has a high school education and has benefited from this education by obtaining a formal sector job, a child is more likely to perceive the positive benefits of schooling.

<b>Table 9: Dependent Variable: Indicator that Respondent Considered Dropping out of High School</b>	
	Marginal Impact on Probability of Considering Dropout
Parents encouraged respondent to go to school	-26.30%
Respondent is involved with school activities	-20.20%
One of the respondent’s parents has a high school diploma	-18.40%
A parent/guardian of the respondent had a formal sector job	13.10%
Respondent uses drugs and drinks alcohol	13.30%
Respondent has friends that do drugs or drink alcohol	14.60%
Respondent started school later than age 5	16.00%
Respondent has friends that have dropped out of school	17.70%
Respondent is a member of a gang	23.50%
Source: Authors’ calculations using survey data	

In addition, the older a child is when they start school, the more likely it is that they think about dropping out of school. This too underscores the importance of parental motivation with respect to their child’s schooling, as parents who enroll their child in Kindergarten on time are more likely to be passionate about formal sector schooling.

We again see the strong role that friendships play in dropout risk. As for the last dependent variable, having friends that have dropped out of school is significantly correlated with dropout risk. Having friends that use drugs or drink alcohol has its own independent effect on dropout risk. That is, this variable is not only capturing that a respondent has access to drugs/alcohol because of their friends’ substance use. Being a member of a gang also greatly increases dropout risk. We interpret these results as indicating a student’s distraction from school, or that gang membership provides them with a community/sense of belonging more powerful than that found in school. However being involved with school activities decreases dropout risk by 20%.

We now find that consuming alcohol and using drugs is significantly and positively associated with thinking of dropping out of school. In a meta-analysis, Townsend, Flisher and King (2007) consistently find a relationship between substance abuse and high school dropout. They discuss a number of theories which explain why substance abuse often occurs among youth at risk of dropping out of high school. These theories all point to common pre-disposing factors for substance abuse and dropping out of school.<sup>xxx</sup> In an effort to define themselves through something other than academic success, students may turn to 'deviant' behaviours such as using drugs, so that drug use and dropping out of school often coincide.

## 5.2 Out-of-school sample

Next we analyze the determinants of missed school days and dropout in the out-of-school sample. In particular our dependent variables are now a dummy variable indicating that a respondent missed at least 1 day of school on average, and the dummy variable indicating high school dropout (a respondent who did not graduate from high school). Table 10 presents summary statistics for these two dependent variables.

Missed more than 1 day of school per week?	Dropped out of high school?
74.1%	76.1%
Source: Authors' calculations using survey data	

We estimate the same regression as for the in-school sample to determine the factors associated with missed school days and dropout amongst the out-of-school sample. We report marginal effects for statistically significant variables in Tables 11 and 12, and full regression results in Appendix 5.

Factor	Marginal Impact on Probability of Missing School
Parents encouraged respondent to go to school	-18.90%
Respondent has gone on a school trip	-16.20%
Respondent had enough to eat regularly, a quiet place to work and a bed to sleep in	-13.10%
Respondent has repeated/failed a grade	20.40%
Respondent used drugs or drank alcohol while in high school	23.20%
Respondent had friends that dropped out of school	28.30%
Source: Authors' calculations using survey data	

As for the in-school sample, repeating/failing a grade, doing drugs/alcohol and parental encouragement are significant determinants of missing days of school. The variables are also associated with a 20% higher, 23% higher and 19% lower chance of missing days of school respectively. These variables again point to the importance of social interactions in influencing a child's enjoyment and acceptance of school.

Two of the variables associated with thinking about dropping out are also associated with actually dropping out – in particular, having friends in high school who dropped out of school and having a parent with a formal sector job. This suggests that for 2 different cohorts – 1 young and 1 older – these factors were important in determining attitudes towards schooling.

<b>Table 12: Dependent Variable: Indicator that Respondent Dropped out of High School</b>	
Factor	Marginal Impact on Probability of Dropping Out of School
Respondent had a part-time job during high school	-18.10%
Parents encouraged respondent to go to school	-13.70%
Respondent had enough to eat regularly, a quiet place to work and a bed to sleep in while in school	-12.70%
Respondent spent time on the land	-12.60%
A parent/guardian of the respondent had a formal sector job	-10.70%
Respondent repeated or failed a grade	12.40%
Respondent had friends that dropped out of school	18.30%
Source: Authors' calculations using survey data	

For both dependent variables, we see that the coefficient on the variable 'home' is statistically significant and negative. This implies that a youth who had a bed to themselves, enough to eat each day and a quiet place to study was 13% less likely to miss school days and 13% less likely to drop out of school. This suggests that social housing and policies to increase food affordability are not just important social policies but important education policy.

A respondent having a part-time job during school is associated with an 18% greater chance of graduating from high school. There could be many ways to interpret this result. One is that job attainable by high school students could be unpleasant, helping the student to realize the value of a high school diploma. Another is that having a job brings the student's family funds for food etc. which reduces stress for the student, allowing them to focus more on their studies.

Finally a youth who spent time on the land while they were in high school is 13% less likely to have dropped out of high school. We interpret this to reflect the value of learning the contemporary practices of one's people and closeness to one's culture. This is thought to be critical to identity formation, which is in turn critical to self-esteem and academic success.<sup>xxxii</sup>

## 6. Conclusions

Education is routinely a key topic in Nunavut media and policy circles, however it has become even more so ever since the Auditor General's report on the Nunavut Education Act in November 2013.<sup>xxxiii</sup> In this report we add to this topical discussion by discussing the findings of an empirical study of the determinants of high school dropout in Nunavut. We find that differences in all four of the categories of variables in our study (individual, friend-

related, parental and school variables) are correlated with youth considering and actually dropping out of high school in the Nunavut context. However the quantitatively important factors leading to dropout risk involve a youth's relationships, especially those with their parents and friends.

Parental variables are revealed to be extremely important for a youth's attitude toward high school and attendance. The negative and significant effect of a parent's formal sector job on thinking about dropping out and actually dropping out may indicate a youth's greater appreciation for the value of a high school diploma if their parent is benefiting economically from having a high school diploma.<sup>xxxiii</sup> A parent's education level and positive view of their child's schooling is also associated with their child missing fewer days of school and being less likely to consider dropping out. The former confirms the strong relationship between parental and child human capital found in the literature. This suggests that the key focus on parental involvement in education present in the 2008 Nunavut Education Act is much-needed. Our qualitative analysis above also hinted at the importance of parental attention to education given the prominence of 'sleeping in' as a reason cited for missing days of school.

A large academic literature affirms the importance of a student's peers in their attendance at and performance in school, as students often emulate the behaviours of their peers in a desire to 'fit in' or to be accepted.<sup>xxxiv</sup> Our study is no different - we find that a youth's friends dropping out of school has a large impact on that youth's school experience in both the in-school and out-of-school samples. A student is 18% more likely to think about dropping out of school if their friends have already dropped out, and an out-of-school individual is 18% more likely to have dropped out of school if they had friends who also dropped out. Such peer effects suggest that once a sub-section of the student population decides to drop out, this negatively affects other students' satisfaction with school and may result in a large proportion of students exiting school early.

Many school-related variables are also associated with missed school days and high school dropout. A number of factors - such as more frequent school trips, installing computers in more classrooms and ensuring a wide range of school activities (e.g. sports, dances) at each school - have appear to have large impacts on school attachment and do not require substantial investments. Other factors found to be associated with high school graduation - attendance at daycare and repeating a grade - call for re-thinking of existing policies. The importance of daycare in our analysis could be capturing the importance of early childhood education - children that are stimulated in their early years form a foundation for learning later on and are more likely to succeed in (and enjoy) school. The significant effect of repeating a grade is interesting in the context of the debate surrounding Inclusive Education in Nunavut. Our results suggest that if high school graduation is the goal, this policy is an effective one, as those students that have failed a grade are 12% more likely to drop out of school. However the practice of allowing struggling students to move to the next grade must be complemented by more individual attention to students that are not held back, and more resources to support teachers dealing with a variety of needs within the same classroom.

Substance abuse also has an impact on potential/actual school dropout. In the in-school sample, students who reported drinking alcohol or doing drugs are 16% more likely to miss days of school and 13% more likely to think about dropping out of school. Youth that used drugs during high school are 23% more likely to have missed days of school.

The influence of drug use on dropping out was also highlighted in our qualitative analysis. This indicates that initiatives to prevent youth from experimenting with drugs and alcohol are important. The literature reviewed above suggests that efforts aimed at addressing the common underlying causes of both substance abuse and school dropout – including counseling and academic support for adolescents, and support for parents who may be having trouble getting through to their children – would be effective for spurring graduation rates.

Our findings reveal which interventions would be most effective at improving high school attendance and graduation rates. These are listed below:

- Recommendations for schools:
  - Make family engagement a top priority – give it the resources and time needed to make it effective.
  - Increase the number of school trips per year and classrooms with computers – these investments are highly correlated with school attendance.
  - Increase efforts to get students involved in school activities such as sports, student council or school dances.
- Recommendations for DEAs:
  - Serve as a strengthened liaison between parents and schools, for example by hosting Elders' discussions or a school/parent orientation event in September. Invite parents to contact their child's teachers, principal and other school staff.<sup>xxxv</sup>
- Recommendations for the Department of Education:
  - Ensure sufficient start-up and annual operations funding for new daycares in communities where they are lacking. Improve utilization of the daycare subsidy, especially for young parents.
  - Increase funding of student support teachers, student support assistants and Inuksiutilirijiit to ensure students who need extra support or enrichment get the individualized attention they need.

Overall our analysis reveals multiple determinants of high school exit/attachment in Nunavut. These efforts call for action not just by many Departments within the Government of Nunavut and the DEAs, but also by the Government of Canada and parents of school-aged Nunavut children.

## References

Atleo, M.L. and Fitznor, L. (2010). "Aboriginal educators discuss recognizing, reclaiming and revitalizing their multi-competencies in heritage/English-language use", *Canadian Journal of Native Education*, 32:13-32.

Aylward, M.L. (2010). "The role of Inuit languages in Nunavut schooling: Nunavut teachers talk about bilingual education", *Canadian Journal of Education*, 33(2): 295-328.

Battiste, M., Kovach, M. and Balzer, G. (2010). "Celebrating the local, negotiating the school: Language and literacy in Aboriginal communities", *Canadian Journal of Native Education*, 32:4-13.

Battiste, M. and Henderson, J.S. (2009). "Naturalizing indigenous knowledge in Eurocentric education", *Canadian Journal of Native Education*, 32(1):129-130.

Berger, P. (2005), "Troubling the empire: Adapting Nunavut schools from their colonial past and present", paper presented at the Canadian Society for Studies in Education Conference 2005, London.

Berger, P. (2007). "Some Thoughts on Qallunaat Teacher Caring in Nunavut". *Journal of Teaching and Learning*, 4(2):1-12.

Berger, P (2009). Inuit language, culture and parental engagement in schooling in one Nunavut community. *Canadian Journal of Native Education*, 32(1):73-90.

Berger, P., Epp, J., and Moeller, H. (2006). The predictable influences of colonialism, culture clash, and current practice on punctuality, attendance, and achievement in Nunavut schools. *Canadian Journal of Native Education*, 29(2): 182-205.

Behrman and Nevzer (1997). *The Social Benefits of Education*, Ann Arbor: University of Michigan Press.

Bishop, J. H., Bishop, M., Bishop, M., Gelbwasser, L., Green, S., Peterson, E., et al. (2004). "Why we harass nerds and freaks: a formal theory of student culture and norms", *Journal of School Health*, 74(7): 235–251.

Bobonis, G.J. and Finan, F. (2009). "Neighbourhood Peer Effects in Secondary School Enrollment Decisions", *The Review of Economics and Statistics*, 91(4): 695–716.

Bridgeland, J.M., Dilulio Jr., J.J., and Morison, K. (2006). The silent epidemic: Perspectives of high school dropouts. Technical report, A report by Civic Enterprises in association with Peter D. Hart Research Associates for the Bill and Melinda Gates Foundation.

Brunelle, N., Plourde, C., Laventure, M., Dupont, D., Gendron, A., \*Bureau, K., & Lafontaine, J. (4 janvier 2011). Psychoactive Substance Use Among Nunavut, Nunatsiavut and Inuvialuit Youth: Inuit's Viewpoints. Summary Report #2: Qualitative results. Rapport final présenté à Santé Canada, à l'organisme ITK (Inuit Tapiriit Katanami) et à la Régie



Régionale de la Santé et des Services Sociaux du Nunavik, Université du Québec à Trois-Rivières.

Chiapa C., Garrido, G.L. and Prina, S. (2012). "The effect of social programs and exposure to professionals on the educational aspirations of the poor", *Economics of Education Review*, 31: 778– 798.

Crane, J. (1991). "The epidemic theory of ghettos and neighborhood effects on dropping out and teenage childbearing". *American Journal of Sociology*, 96(5): 1226-1259.

Dearden, L., Emmerson, C., Frayne, C. and Meghir, C. (2005). Education subsidies and school drop-out rates. Technical report, Institute for Fiscal Studies Working Paper Number 05/11.

DeGagne, M. (1998/9). "The Aboriginal Healing Foundation: Addressing the trauma of the residential school experience amongst Canada's aboriginal people", *International Policy Review*, 8:92-99.

Department of Education (2014). *It Starts at Home: A Family Engagement Resource for Nunavut Schools*. Iqaluit: Department of Education.

Eckermann, A.K. (1998). "The Economics of Aboriginal Education", *International Journal of Social Economics*, 25(2-4):302-313.

Eckstein, Z. and Wolpin, K.I. (1999). "Why youths drop out of high school: the impact of preferences, opportunities, and abilities", *Econometrica*, 67(6):1295-1339.

Flay, B.R., Koepke, D., Thomson, S.J., Santi, S., Best, A.J. and Brown, S.K. (1989). "Six-Year Follow-up of the First Waterloo School Smoking Prevention Trial", *American Journal of Public Health*, 79(10).

Georgiades, K. and Boyle, M.H. (2007). "Adolescent tobacco and cannabis use: Young Adult Outcomes from the Ontario Child Health Study", *Journal of Child Psychology and Psychiatry*, 48(7): 724–731.

Guryan, J (2004). "Desegregation and Black Dropout Rates", *American Economic Review*, 94(4):919-943.

Hanushek, E. A., Kain, J. F., Markman, J. M., and Rivkin, S. G. (2003). "Does peer ability effect student achievement?" *Journal of Applied Econometrics*, 18(5): 527–544.

Hoxby, C. M. (2000). "Peer effects in the classroom: learning from gender and race variation". NBER Working paper no. 7867. National Bureau of Economic Research, Inc.

Jimerson, S., Egeland, B.L., Sroufe, A. and Carlson, B. (2000). "A Prospective Longitudinal Study of High School Dropouts Examining Multiple Predictors Across Development", *Journal of School Psychology*, 38(6): 525–549.

Kremer, M., Miguel, E. and Thornton, R. (2005). "Incentives to learn". *Education Next: a Journal of Opinion and Research*, 5(2):57-64.

- Lee, V.E. and Burkam, D.T (2003). "Dropping out of high school: the role of school organization and structure". *American Educational Research Journal*, 40(2): 353-393.
- Lewthwaite, B. and McMillan, B. (2010). "She can bother me, and that's because she cares': What Inuit students say about teaching and their learning", *Canadian Journal of Education*, 33(1):140-175.
- National Strategy on Inuit Education (NSIE) (2011). "First Canadians, Canadians First", Ottawa: Inuit Tapiriit Kanatami.
- Nunavut Tunngavik Inc. (NTI) (2013). 2010-2011 Annual Report: The Status of Inuit Children and Youth in Nunavut. Iqaluit.
- Oreopoulos, P. (2007). "Do dropouts drop out too soon? Wealth, health and happiness from compulsory schooling", *Journal of Public Economics*, 91(11-12): 2213-2229.
- Rohner, T. (2014). "Poor education main barrier for Baffinland jobs: Inuit org survey", *Nunatsiavut News*, October 9, 2014.
- Statistics Canada (2000). Census of Canada, 2000, Aboriginal Peoples Survey, Adult files, Statistics Canada (accessed through the Manitoba Research Data Centre, July 31, 2015). All computations, use and interpretation of these data are entirely those of the author.
- Statistics Canada (2005). Census of Canada, 2005, Aboriginal Peoples Survey, Adult files, Statistics Canada (accessed through the Manitoba Research Data Centre, July 31, 2015). All computations, use and interpretation of these data are entirely those of the author.
- Statistics Canada (2015). "Education Indicators in Canada: An International Perspective". Catalogue no. 81-604-X.
- Taylor, D.M. (2007), "Partnering with Parents and Communities: Maximizing the Educational Experience for Inuit Students: A Discussion Paper for the National Inuit Education Summit", Prepared for Inuit Tapiriit Kanatami (ITK).
- Townsend, L., Flisher, J. and King, G. (2007). "A Systematic Review of the Relationship between High School Dropout and Substance Use, *Clinical Child and Family Psychology*, 10(4).

# Appendix 1: Wage Premia for Specific Industries and Occupations

## Industry-level Earnings Premia

Below we present the earning premia for industries relative to the 'Other Services' industrial category. These premia are calculated by including dummy variables for a respondent working in the industries below in addition to the variables included in Equation 2 in the main text.

<b>Table A1</b>		
<b>Industry</b>	<b>Age 18-32</b>	<b>Age 18-65</b>
Public Administration	70.5***	82.0***
Food services and accommodation	19.2***	9.2**
Arts, entertainment and recreation	28.8***	21.1***
Health care and social assistance	39.3***	46.4***
Educational services	48.9***	58.5***
Administrative and Support, Waste Management and Remediation Services	30.4***	20.6***
Management of Companies and Enterprises	85.0***	42.7***
Professional, Scientific and Technical Services	59.5***	61.5***
Real estate, rental and leasing	30.2	37.6***
Finance and Insurance	73.4***	79.8***
Information and cultural industries	45.3***	62.8***
Transportation and warehousing	62.1***	53.9***
Retail trade	24.7***	17.7***
Wholesale trade	59.8***	59.4***
Manufacturing	61.8***	64.5***
Construction	56.1***	48.3***
Utilities	96.7***	94.3***
Mining and Oil and Gas extraction	95.2***	98.6***
Agriculture, Forestry, Fishing and Hunting	34.8***	19.7***
Note: ***, **, * signify 1%, 5% and 10% level of significance, respectively.		
Source: Statistics Canada (2000, 2005)		

## Occupational Earnings Premia – 2005 only

Below we present the earning premia for occupations other than general service occupations (administrative and regulatory occupations, clerical supervisors, clerical occupations, food and beverage services, travel and accommodation services, sales and services n.e.c.). These premia are calculated by including dummy variables for a respondent holding the occupations below in addition to the variables included in Equation 2 in the main text.

<b>Table A2</b>		
<b>Occupation</b>	<b>Age 18-32</b>	<b>Age 18-65</b>
Management positions	74.7***	80.1***
Secretary	39.6***	48.2***
Professional Occupations in Health	59.6***	70.7***
Judge/lawyer/psychologist/social worker/ministers of religion/policy and program officer	58.3***	78.6***
Teachers and Professors	57.1***	80.0***
Paralegal, social services workers and occupation in religion and education	7.7	25.5***
Professional occupations in art and culture	20.9	3.6
Technical occupations in art, culture, recreation and sport	7.6	8.5
Sales and service supervisors	35.2**	45.2***
Wholesale, technical, insurance, real estate sales specialists, and detail, wholesale and grain buyers	30.3	59.8***
Retail salespersons and sales clerks	7.9	-3.9
Cashiers	-2.0	-2.6
Chefs and cooks	17.2	7.4
Occupations in protective services	52.0***	68.3***
Child care and home support workers	-0.05	7.9
Contractors and supervisors in trades and transportation	56.1	96.6***
Construction trades	52.0***	41.0***
Stationary engineers, power station operators and electrical trades and telecommunications occupations	99.9***	83.6***
Machinists, metal forming, shaping and erecting occupations	94.0***	81.5***
Mechanics	70.9***	74.8***
Heavy equipment and crane operators	66.2***	56.1***
Trades helpers, construction and transportation labourers	35.6***	25.5***
Occupations related to primary production, agriculture and forestry, excluding workers	35.9***	30.1***
Supervisors in manufacturing	26.3	83.6***
Machine operators in manufacturing	50.9***	50.6***
Labourers in processing, manufacturing and utilities	6.2	12.5
Note: ***, **, * signify 1%, 5% and 10% level of significance, respectively.		
Source: Statistics Canada (2000, 2005)		

# Appendix 2: Survey Variables

Variables arising from our survey are listed below:

## 1. Individual-specific factors

We asked each respondent whether their home has enough food (Enough\_food), whether there are enough beds in their home for each person in the home (Enough\_beds) and whether there is a quiet place in their home to do homework (Quiet). In our analysis we combined the latter 3 variables into a dummy variable taking the value of 1 if a respondent always had enough food, a bed of their own and a quiet place to study. We refer to this variable as 'Home'.

We also asked how long a respondent has lived in their home (Home\_for\_how\_long), whether they speak Inuktitut/Innuinaqtun (Speak\_Inu), whether they hold a job for pay (Job) and the number of jobs they did around the house (Chores).

We asked youth whether they smoke (Smoke), drink alcohol (Drink) or do drugs (Drugs). In our analysis we combined the last two variables into a dummy variable called Drugs\_OH, indicating that a respondent either does drugs or drinks alcohol.

We asked respondents whether they hunt (Hunt) and spend time on the land (On\_the\_land), the number of activities they engage in outside of school (Activities\_outside\_school), whether they have children of their own (Children), whether they have lost anyone due to suicide (Lost\_suicide), whether they are part of a gang (Gang) and whether they have been bullied (Bullied).

## 2. Parental variables

We asked 4 questions related to a respondent's parents: what their parent/guardian's level of schooling is (Parent\_schooling), their parent's level of encouragement for them to go to school (Parent\_Encourage), whether their parent has a formal sector job (Parent\_occupation) and the amount of time their parent spends with them on their homework (Parent\_Time).

## 3. Friend-related

Our questionnaire queried respondents regarding whether they had many friends (Friends), whether in the last year their friends dropped out of school (Friend\_Dropout), whether their friends used drugs or alcohol (Friend\_substances) and what their friends' opinion of them staying in school was (Friend\_opinion).

## 4. School-related

Questions were asked of interviewees related to their school experience such as whether they have had an Inuit teacher (Inuit\_teacher), if they went to day care (Daycare), whether they ever repeated or failed a grade (Repeat), whether they are driven or took the bus to school or walk (Driven\_to\_school), what age they started school at (Age\_started\_school),

whether they have gone on school trips (School\_trip), the activities they are involved in at school (School\_activities), whether their teacher uses a computer in the classroom (Computer\_in\_classroom), whether there is bullying in their school (Bullying) and whether anyone provided them with advice about the direction of their studies (School\_advice).

## Appendix 3: Summary Statistics<sup>xxxvi</sup>

### In-school sample

<b>Variable/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Enough food at home (0/1)	69.1%	51.4%
Enough beds (0/1)	91.0%	85.5%
Quiet (0/1)	85.4%	80.0%
Job (0/1)	36.7%	24.6%
On the land (0/1)	16.0%	24.3%
Children (0/1)	85.6%	82.9%
Lost someone to suicide (0/1)	60.8%	72.9%
Gang (0/1)	40.2%	53.7%
Bullied (0/1)	68.0%	68.6%
Drugs (0/1)	21.5%	32.9%
Alcohol (0/1)	38.7%	64.3%
Smoke (0/1)	53.0%	74.3%
Speak Inuktitut (0/1)	65.6%	71.0%

<b>Leisure Activity/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
None	13.8%	20.0%
On the land	2.2%	4.3%
Elders	1.7%	4.3%
Youth Centre	2.2%	17.1%
Friends	18.2%	8.6%
Sports	16.0%	18.6%
TV	21.5%	27.1%
Family	24.3%	0.0%

<b>Opinion/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Disliked school	26.1%	27.9%
School was okay	37.2%	42.6%

I really enjoyed school	36.7%	29.4%
-------------------------	-------	-------

**Table A6: Favourite Subjects by 'At Risk' Status (% of respondents within each risk category)**

<b>Subject/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
None	8.3%	5.7%
English	7.2%	12.9%
Math	12.2%	12.9%
Science	10.5%	11.4%
Social	7.7%	10.0%
Northern	1.1%	1.4%
Art	10.5%	8.6%
Physical Education	35.4%	27.1%
Aulajaaqtut	7.2%	10.0%

**Table A7: Where Did You Go on a School Trip? (% of respondents within each risk category)**

<b>Location/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Outside Nunavut	41.9%	33.3%
Within Nunavut	43.5%	50.0%
Outside and Within Nunavut	14.5%	16.7%

**Table A8: Extracurricular activities by 'At Risk' Status (% of respondents within each risk category)**

<b>Activity/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
None	28.7%	48.6%
Sports	35.9%	25.7%
Music	8.8%	7.1%
Debating	0.6%	1.4%
Wrestling	2.8%	2.9%
Drama	3.9%	4.3%
Dances	12.2%	5.7%
Council	7.2%	4.3%

**Table A9: Who Gave you Advice on your Studies? Responses by 'At Risk' Status (% of respondents within each risk category)**

<b>Counsellor/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
None	21.0%	20.0%
Principal	5.0%	7.1%
Vice Principal	1.1%	7.1%
Teacher	14.4%	18.6%
Innait Inuksiutilirijiit	3.3%	4.3%
Ilinniarvimmi Inuusilirijiit	1.1%	0.0%

Parent	54.1%	42.9%
--------	-------	-------

<b>Table A10: Means of Parental Variables by 'At Risk' Status</b>		
<b>Variable/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Parent Occupation (0/1)	56.9%	41.4%
Parent Schooling (0/1)	63.0%	44.3%
Parent Time (0/1)	70.7%	58.6%
Parent Opinion (0/1)	89.5%	78.6%

<b>Table A11: Means of Friend-Related Variables by 'At Risk' Status</b>		
<b>Variable/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Friends (0/1)	47.5%	45.7%
Friend opinion (0/1)	62.4%	54.3%
Friend dropout (0/1)	50.3%	80.0%
Friend substances (0/1)	40.9%	42.9%

<b>Table A12: Means of School-related Variables by 'At Risk' Status</b>		
<b>Variable/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Inuit teachers (0/1)	3.9%	2.9%
Daycare (0/1)	67.4%	71.6%
Repeat/fail(0/1)	33.3%	50.0%
Driven to school (0/1)	50.3%	35.7%
Age started school (continuous)	4.7	4.8
School trip (0/1)	76.7%	81.4%
Computer in classroom (0/1)	86.0%	85.7%
Bullying in school (0/1)	58.4%	64.1%
School advice (0/1)	21.0%	20.0%

### Out-of-School Sample

<b>Table A13: Means of Individual-Related Variables by Dropout Status</b>		
<b>Variable/Dropout status</b>	<b>Graduate</b>	<b>Non-graduate</b>
Enough food at home (0/1)	66.2%	32.2%
Enough beds at home (0/1)	87.8%	73.2%
Quiet (0/1)	82.4%	77.8%
Job (0/1)	82.2%	52.9%
On the land (0/1)	47.3%	27.5%
Children (0/1)	12.2%	16.5%
Lost someone to suicide (0/1)	71.6%	63.6%
Gang (0/1)	83.8%	79.3%
Bullied (0/1)	45.9%	19.5%
Drugs (0/1)	74.3%	85.6%
Alcohol (0/1)	39.2%	33.1%
Smoke (0/1)	74.3%	70.8%
Speak Inuktitut (0/1)	87.8%	86.3%



<b>Leisure Activity/Dropout status</b>	<b>No</b>	<b>Yes</b>
None	6.7%	21.6%
On the land	5.4%	9.7%
Elders	5.4%	5.9%
Youth Center	1.3%	1.7%
Friends	10.8%	20.8%
Sports	8.1%	5.1%
TV	20.3%	7.6%
Family	41.9%	27.5%

<b>Opinion/Dropout status</b>	<b>No</b>	<b>Yes</b>
Disliked school	24.3%	23.7%
School was okay	28.6%	35.3%
I really enjoyed school	47.1%	41.1%

<b>Subject/Dropout status</b>	<b>No</b>	<b>Yes</b>
None	0.0%	5.9%
English	8.1%	7.6%
Math	6.8%	16.9%
Science	10.8%	8.5%
Social	18.9%	13.1%
Northern	8.1%	3.0%
Art	5.4%	9.3%
Physical Education	25.7%	27.5%
Aulajaaqtut	16.2%	8.1%

<b>Location/Dropout status</b>	<b>No</b>	<b>Yes</b>
Outside Nunavut	36.1%	18.0%
Within Nunavut	45.9%	74.3%
Outside and Within Nunavut	18.0%	7.8%

<b>Activity/Dropout status</b>	<b>No</b>	<b>Yes</b>
None	20.3%	18.6%
Sports	31.1%	43.6%
Music	9.5%	10.2%

Debating	0.0%	0.8%
Wrestling	2.7%	3.8%
Drama	4.1%	8.9%
Dances	10.8%	6.8%
Council	21.6%	7.2%

**Table A19: Who Gave you Advice on your Studies? Responses by 'At Risk' Status**  
(% of respondents within each graduation category)

<b>Counsellor/Dropout status</b>	<b>No</b>	<b>Yes</b>
None	25.7%	23.7%
Principal	5.4%	10.2%
Vice Principal	1.4%	0.4%
Teacher	17.6%	20.8%
Innait Inuksiutilirijiit	2.7%	3.0%
Ilinniarvimmi Inuusilirijiit	0.0%	0.8%
Parent	47.3%	41.1%

**Table A20: Means of Parental Variables by 'Dropout' Status**

<b>Variable/Dropout status</b>	<b>No</b>	<b>Yes</b>
Parent Occupation (0/1)	75.7%	43.6%
Parent Schooling (0/1)	32.4%	18.6%
Parent Time (0/1)	74.3%	69.9%
Parent Opinion (0/1)	87.8%	71.6%

**Table A21: Means of Friend-Related Variables by 'Dropout' Status**

<b>Variable/Dropout status</b>	<b>No</b>	<b>Yes</b>
Friends (0/1)	54.1%	50.8%
Friend opinion (0/1)	55.4%	53.4%
Friend dropout (0/1)	67.6%	83.1%
Friend substances (0/1)	8.1%	16.5%

**Table A22: Means of School-related Variables by 'Dropout' Status**

<b>Variable/Student thinking of dropping out?</b>	<b>No</b>	<b>Yes</b>
Inuit teachers (0/1)	8.1%	3.8%
Daycare (0/1)	43.8%	23.8%
Repeat/fail(0/1)	43.2%	64.2%
Driven to school (0/1)	54.1%	32.6%
Age started school (continuous)	4.8	5.0
School trip (0/1)	87.8%	76.2%
Computer in classroom (0/1)	56.2%	50.0%
Bullying in school (0/1)	57.1%	58.3%
School advice (0/1)	25.7%	23.7%

## Appendix 4: Additional Qualitative Responses

Other answers to the question: "When you missed school, what was the main reason?"

- I didn't go to school either because I slept in, had home problems or was embarrassed of not being able to read or spell as fast as the other students
- My parent's had been drinking, so I barely went to school.
- Teenage pressure - staying up late, experimenting, boys
- Fighting with classmates; not getting along.
- I was too hungry and tired
- I had trouble with English so stopped going.
- My parents were always away for my dad's treatments so I was left alone at home.
- The only time I would miss school is when I was sick or when personal issues would pop-up.
- Bad habits; bad teachers - swearing at them, mistreated students so I quit school
- No support or motivation; sometimes lack of transportation
- Due to my Father's drinking
- I was afraid
- I missed a lot of school when Mom passed away
- I was burnt out because of all the sports I was involved in
- Lazy
- I was partying and drinking
- My boyfriend felt jealous when I went to school
- I didn't have transportation, my Dad was mad, I had to clean, I was hungry, it was too cold out.
- My parents don't really wake me up in the morning
- I was angry, I just needed to get away from people
- Didn't go to class much in grade 10 - it's easy for students to get away from school
- I was taking care of my Grandma.
- Lack of work ethic, lazy, no discipline
- Sometimes my father would have a house party, which kept me up
- I'm usually away for hockey tournaments.
- I stay away from school to help my family.
- Sick or just be home, tidying and relaxing
- I would sneak out to get away from teachers or parents.
- I just walk around town.
- I was too tired - paralyzed in bed; even if wanted to get up, couldn't.
- I was making babies that's why I quit
- I don't wake up early enough and my mom and I have conversations
- I'm responsible for waking myself up and finding my own way to school.
- It was too hard trying to catch up with the lessons.
- Because I don't want to be around certain people.
- I am sick a lot and I like sleeping.

Other answers to the question: "What is the main reason for why you dropped out of school?"

- Because I was 19 and had my trust fund
- Boring
- I was behind on English

- I cannot stay indoor all day
- I was expelled because I lost my brother
- Lack of interest
- Illness
- I was traumatized outside the school
- I was beat up by a teacher
- Lack of food and sleep
- Teachers hardly teach
- I thought I was too cool to go to school
- My uncle passed away
- Lack of respect
- I have active tuberculosis
- I lost my Father
- Due to medical reasons
- Because of community service
- I thought I didn't need high school to achieve my goals
- I took the wrong path and made the wrong choices
- Because they made us sit with boys
- I was bullying too many students

Other responses to the question: "Would an increase in high school graduation be beneficial for your community important? If so, why?"

- There wouldn't be as much miscommunication.
- People would be more productive
- More competition so that could increase work places and businesses in town.
- It would create a class of more responsible, better-conduct citizens.
- It would be perfect to graduate to all youth in Nunavut from high school.
- There would be more Inuit employed in managerial positions
- Better homes
- We'd have more community members contributing to the wage economy
- This would make other kids want to finish so they will be praised as well.
- It would be fun.
- More high school graduates would give other kids hope
- We would have a more academic society.
- All jobs need grade 12
- Whites are taking over
- It would make a positive contribution to our community.
- Less dumbasses
- More graduation would bring a reduction in violence
- There would be more choices than receiving welfare
- More people would earn a good financial income
- I think it would be a good thing for our community.
- It would stop vandalism
- Students in my community come out with their diploma without being able to read/write
- It will help people to see the bigger picture from different angles

- More self-esteem, more jobs and higher education
- There would be more professional working Inuit
- It's not beneficial at all. I graduated and found it hard to find a job!
- Increased support from officials and family
- There would be more activities that everyone would enjoy.
- Students would get better grades.
- It would provide the foundation that you need to earn and work hard to get the things you want and need in life
- There would be more educated people in government positions, those able to initiate their own businesses.
- More educated population means more educated decisions and choices.
- It would bring us a cleaner town.
- More graduates means we'd have better teachers in the future
- Community members having more pride in their lives and contribute to their confidence.
- Individuals would have a greater chance of success
- Increase education → increase knowledge → increase strength
- More trained (educated)= better employment/more opportunities
- More graduation would be a good thing as long as we create enough jobs to meet supply
- More proud peeps
- Help kids to travel and see the world
- Community fellowship
- More Inuktitut teachers to carry on our language and culture
- More Inuit employers/employees
- Graduates would have jobs and help others in need

## Appendix 5: Regression Results

Table A21: Probit Regression Results: Average Marginal Effects (dy/dx)				
Explanatory Variables/Dependent variable	Indicator that Respondent Missed School days	Indicator that Respondent Considered Dropping out of School	Indicator that Respondent Missed School days	Indicator that Respondent Dropped out of High School
School_trip	-0.182** (0.093)	0.095 (0.067)	-0.162** (0.080)	-0.100 (0.078)
On_land	0.005 (0.102)	0.107 (0.096)	-0.093 (0.069)	-0.126* (0.067)
Home (quiet, food, bed)	-0.092 (0.085)	-0.021 (0.069)	-0.131* (0.073)	-0.127* (0.068)
Sex	0.082 (0.079)	0.075 (0.063)	0.028 (0.067)	-0.067 (0.059)
Job	-0.051 (0.088)	-0.010 (0.072)	0.068 (0.071)	-0.181*** (0.056)
Speak_inu	0.070 (0.089)	-0.047 (0.077)	0.027 (0.107)	-0.089 (0.074)
Drugs_OH	0.158* (0.087)	0.133* (0.069)	0.232** (0.116)	0.041 (0.096)
Gang	0.033 (0.094)	0.235*** (0.085)	-0.014 (0.066)	-0.031 (0.060)
Friends_drop	0.154* (0.081)	0.177*** (0.061)	0.283*** (0.095)	0.183** (0.092)
Friends_substances	-0.120 (0.089)	0.146* (0.075)	0.066 (0.083)	0.031 (0.080)
Parent_high_school	-0.072 (0.085)	-0.184** (0.073)	-0.086 (0.086)	-0.041 (0.074)
Parent_encourage	-0.266** (0.118)	-0.263** (0.131)	-0.189*** (0.062)	-0.137** (0.061)
Parent_occupation	-0.097 (0.088)	-0.131* (0.071)	-0.074 (0.067)	-0.107* (0.064)
Repeat	0.167* (0.082)	0.107 (0.071)	0.204*** (0.066)	0.124** (0.061)
Daycare	-0.249*** (0.086)	0.104 (0.064)	0.042 (0.069)	-0.051 (0.067)
Computer_school	-0.205** (0.089)	-0.115 (0.088)	0.021 (0.087)	-0.045 (0.073)
Friends	-0.093 (0.071)	-0.022 (0.056)	-0.014 (0.060)	-0.025 (0.055)

School_activities	-0.168**	-0.202**	-0.082	0.085
	(0.084)	(0.079)	(0.078)	(0.093)
Start_school	-0.047	0.160***	-0.014	0.030
	(0.068)	(0.057)	(0.041)	(0.043)
Pseudo R <sup>2</sup>	0.236	0.284	0.236	0.273
N	218	218	245	245
Note: All explanatory variables are dummy variables. Standard errors are reported under coefficient estimates in parentheses. Superscripts ***, **, * signify 1%, 5% and 10% level of statistical significance, respectively.				

# Endnotes

---

- <sup>i</sup> National Strategy on Inuit Education (2011)
- <sup>ii</sup> Sima Sahar Zerehi, “Daycare subsidy in Nunavut underused Lack of awareness and difficulties with application process creating barriers for families”, CBC news, <http://www.cbc.ca/news/canada/north/daycare-subsidy-in-nunavut-underused-1.3144475>
- <sup>iii</sup> Office of the Auditor General, Chapter 6 - Nutrition North Canada—Aboriginal Affairs and Northern Development Canada, [www.oag-bvg.gc.ca/internet/docs/parl\\_oag\\_201411\\_06\\_e.pdf](http://www.oag-bvg.gc.ca/internet/docs/parl_oag_201411_06_e.pdf)
- <sup>iv</sup> John Van Dusen, “Nunavut’s social housing faces billion-dollar shortfall”, CBC news, <http://www.cbc.ca/news/canada/north/nunavut-s-social-housing-faces-billion-dollar-shortfall-1.3190127>
- <sup>v</sup> For example, 57% of individuals in Nunavut were under the age of 24 in 2011, and 33% are below 14 years old (Statistics Canada, National Household Survey (2011)) - <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-011-x/2011001/tbl/tbl05-eng.cfm>.
- <sup>vi</sup> Dene Moore, “Native school conditions in Canada are shocking: panel chair”, *Globe and Mail*, Sunday, Oct. 16, 2011.
- <sup>vii</sup> Expenditure includes teachers’ salaries and benefits, teaching materials, facilities and maintenance.
- <sup>viii</sup> Lee and Burkam (2003)
- <sup>ix</sup> Oreopoulos (2007)
- <sup>x</sup> Behrman and Nevzer (1997)
- <sup>xi</sup> Berger (2005)
- <sup>xii</sup> See for example Bridgeland et al. (2006), Dearden et al. (2005), Eckstein and Wolpin (1999), Guryan (2004), Harris, Perreira and Lee (2006) and Kremer, Miguel and Thornton (2007)
- <sup>xiii</sup> See for example Aylward (2010), Atleo and Fitznor (2010), Battiste and Henderson (2009), Battiste, Kovach and Balzer (2010), Berger (2005, 2010), Berger, Epp and Moller (2006), DeGagne (1998) and Lethwaite and McMillan (2010)).
- <sup>xiv</sup> We find a number of interesting results - in particular, among other determinants, that being able to speak an Aboriginal language and whether an individual smokes are important in explaining high secondary school dropout in the Canadian North relative to the South.
- <sup>xv</sup> Statistics Canada (2000), Statistics Canada (2005)
- <sup>xvi</sup> Labour Force StatsUpdate (2015), Nunavut Bureau of Statistics, <http://www.stats.gov.nu.ca/en/Labour%20survey.aspx>
- <sup>xvii</sup> This result was echoed by a recent survey conducted by the Qikiqtani Inuit Association (QIA) recently. QIA interviewed individuals in communities around Baffinland Iron Mine Corp.’s Mary River iron mine. 42% of those interviewed were unemployed and stated that their poor education and computer skills were the main barriers to securing employment at the mine (Rohner (2014)).
- <sup>xviii</sup> While Melanie was in Iqaluit a number of people inquired about wages across sectors of the economy. Due to this question, in the Appendix we present industry- and occupation-level earnings premia – average wages relative to those in the services industry and service occupations.
- <sup>xix</sup> Peter Varga, “Nunavut jump-starts education reform with three big changes”, *Nunatsiaq News*, March 24, 2014.
- <sup>xx</sup> Tristin Hopper, “Kugluktuk, Nunavut enacts 8:30 a.m. community-wide wake-up siren to combat teen tardiness”, *National Post*, January 6, 2014.
- <sup>xxi</sup> Berger (2007)
- <sup>xxii</sup> Berger, Epp and Moeller (2006)
- <sup>xxiii</sup> Samantha Dawson, “Nunavut has plans to tackle bullying in schools: Aariak - “Bullying is serious””, *Nunatsiaq News*, May 16, 2013.
- <sup>xxiv</sup> Samantha Dawson, “Replacing bruised faces with healthy minds and hearts - Nunavut school program teaches healthy relationships”, *Nunatsiaq News*, February 21, 2013.
- <sup>xxv</sup> Brunelle (2011)
- <sup>xxvi</sup> Further information on the regressions we run is available upon request.
- <sup>xxvii</sup> These are: 1) Inuit parents’ shorter experience with formal education, 2) lack of trust of formal education due to residential schooling, 3) parents’ feelings of inadequacy given low educational attainment,



---

4) low returns to education in some communities and 5) community norms which entail the majority of students not putting in full effort in school.

<sup>xxviii</sup> Peter Varga, “Nunavut’s education act “perhaps overly ambitious” Auditor General says”, *Nunatsiaq News*, April 2, 2014.

<sup>xxix</sup> David Murphy, “Nunavut’s Education Act to go under the microscope - “We are prepared to consider changes to the provisions concerning bilingual instruction if necessary”, *Nunatsiaq News*, June 10, 2014.

<sup>xxx</sup> For example, individuals that choose to drop out of high school may hold non-conforming attitudes, which are consistent with both substance abuse and abandonment of the ‘student role’. Primary socialization theory asserts that when an adolescent’s ties to family are weak, and to their peers are strong, the adolescent is most at risk for both substance abuse and early school exit. Finally, strain theory proposes that students who do poorly academically may become frustrated with school and alienated from it.

<sup>xxxi</sup> Maina (1997)

<sup>xxxii</sup> Report of the Auditor General of Canada to the Legislative Assembly of Nunavut—2013: Education in Nunavut, accessed at [http://www.oag-bvg.gc.ca/internet/English/nun\\_201311\\_e\\_38772.html](http://www.oag-bvg.gc.ca/internet/English/nun_201311_e_38772.html)

<sup>xxxiii</sup> This same type of effect was found by Chiapa, Garrido and Prina (2012).

<sup>xxxiv</sup> See for example Bishop et al. (2004), Bobonis and Finan (2009), Hanushek et al. (2003), Hoxby (2000) and Jimerson et al. (2000).

<sup>xxxv</sup> Department of Education (2014), page 44.

<sup>xxxvi</sup> All tables in this section contain calculations using our survey data.

