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

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Abstract

This paper discusses the results of a survey on the high school experience of youth in 5 Nunavut communities. The survey consisted of personal interviews with youth currently in high school and with individuals that have dropped out of high school. Youth were asked about their attendance at school, resources at school, their home life and peers and their personal wellness. While the existing literature has, qualitatively, identified important mechanisms leading to early high school exit in Nunavut communities, our data allows us to quantify the relative importance of the various factors influencing high school dropout rates for youth living in Nunavut. The variable most associated with youth in school thinking about dropping out of school is alcohol consumption - a student who drinks is 25% more likely to think of dropping out relative to a student who does not drink. For the out-of-school sample, we investigated factors associated with dropping out of school (as opposed to graduating from high school). We find that a youth whose friends dropped out of school is 20% more likely to have dropped out of school. A parent's attitude toward schooling, education level and occupational status have an impact on a number of different aspects of a child's likelihood of dropping out. A youth's awareness of the economic returns to education also appears important for high school completion. We discuss potential policy implications of these results.

Keywords: Analysis of Education; Public Policy

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1 Introduction

The objective of this paper is to uncover the key determinants of high dropout rates from high school among youth in Nunavut. Between 2007 and 2010, the three-year average dropout rate among First Nations people aged 20-24 and living off-reserve was 22.6%, compared with 8.5% for the non-Aboriginal population. The average high school dropout rate for the same age group and time period in the three territories was higher than that of the provinces - Yukon's rate was 15.5% while the drop out rate in the Northwest Territories was 30.1%. While the latter rates are staggering, Nunavut had the highest average dropout rate of all provinces and territories, at 50.0% for 2007-2010.

With the highest birth rate in Canada, Nunavut is the youngest region in the country[1]. 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 paper 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?

We discuss the results of a survey conducted in 5 Nunavut communities (Hall Beach, Igloolik, Iqaluit, Kugluktuk and Rankin Inlet) in Spring 2013. The survey consisted of personal interviews with youth currently in high school and with individuals that have dropped out of high school. Youth were asked about their attendance at school, resources at school, their home life and peers and their personal wellness. We analyze the data from this survey to determine which variables - 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, and highlight which government policy or educational programs may assist in spurring high school graduation.

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, as we do (see for example Eckstein and Wolpin [13], Kremer, Miguel and Thorton [15], Lee and Burkham [17], Dearden et al. [10], Angrist and Lavy [1], Bridgeland et al. [8], Crane [9], Guryan [14] and Perreira, Harris and Lee [16]). 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

[1]For example, approximately 60% of individuals in Nunavut were under the age of 24 in 2011, and 33% are below 14 years old (Statistics Canada (2012)).

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 (see Aylward [3], Atleo and Fitznor [2], Battiste and Henderson [5], Battiste, Kovach and Balzer [4], Berger [6], Berger, Epp and Moller [7], Eckerman [12], DeGagne [11] and Lethwaite and McMillan [18]). 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 the literature on educational attainment cited 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 tradeoff 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 among Aboriginal individuals in the Canadian North relative to the South. 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. 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. As mentioned above, although ethnographic studies collecting economic, sociological and educational information have been conducted in the U.S., this is the first such study for the Canadian context.

In the next section we introduce our data and highlight summary statistics for this data. Section 3 discusses a similar study conducted on the issue of high school dropout in the North. We then provide a qualitative analysis for the open-ended questions in our survey. In Section 5 we present the results of our regression analysis on the in-school sample and out-of-school samples separately. Section 6 concludes and offers policy recommendations based on our results.

2 Data

We consulted with education stakeholders regarding this study in Iqaluit in April 2012. We chose Iqaluit given its relatively large population compared to other municipalities, and because institutions of interest to us are located there. We spoke with students, youth, teachers, politicians and education officials (Elders, school administrators and representatives of the Nunavut Department of Education and the Arctic College) in Iqaluit. These meetings provided us with guidance on the types of questions we should ask in the 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 Inuit regions in Nunavut. As a result we conducted the survey in 5 communities in Spring 2013: Kugluktuk in the Kitikmeot region; Hall Beach, Igloolik and Iqaluit in the Qikiqtaaluk region and Rankin Inlet in the Kivalliq region.

Youth who were interviewed had to be between age 14 and 32, 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 had the option of being interviewed or filling out the survey on their own (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. Table 1 below presents basic information on our data.

We divide our variables into 4 main categories:

1. Individual-specific factors - these are variables in the questionnaire that refer only to the respondent themselves, including whether the respondent's home has enough food (Enough foo), whether there are enough beds in their home for each person in the home (Enough beds), whether there is a quiet place to do homework (Quiet), how long they've lived in their home (Home for how long), whether they speak Inuktitut (Speak Inuktitut), whether they held a job for pay (Job), the number of jobs they did around the house (Chores), whether they smoke (Smoke) or drink alcohol (Drink), 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 anyone due to 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: their parent's level of schooling (Parent schooling), their parent's opinion of schooling (parent opinion), whether their parent had a formal sector job (Parent occupation) and the amount of time their parent spent 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 had an Inuit teacher (Inuit teacher), if they went to day care (Day care), whether they ever repeated or failed a grade (Repeat/fail), whether they were driven or took the bus to school (Driven to school, what age they started school at (Age started school), whether they went on school trips (School trip), the number of extracurricular activities they were involved in at school (Extracurricular), whether their teacher used 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)

Table 1: **Basic Characteristics of Data**

	Frequency	Percent
In/Out-of-school sample		
In school	310	54
Out of school	260	46
Grade of dropout		
Below grade 8	10	4.65
Grade 8	8	3.72
Grade 9	31	14.42
Grade 10	78	36.28
Grade 11	63	29.30
Grade 12	25	11.63
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	17.10
Proportion Inuk	99.3%	92.2%
Proportion Female	52.6%	53.7%

2.1 In-School Sample

We begin by documenting the differences in variables within the categories above for students reporting that they have thought of dropping out of high school relative to those that have

not. This is presented in Tables 2-5. We find that there are large differences in these variables between the 2 groups. In particular, there are large difference in own-substance abuse (with 'at risk' students engaging in greater drug and alcohol use), in parental education (with parents of 'at risk' students having less education) and in the extent to which one's friends have dropped out of high school ('at risk' youth have more friends that have dropped out). In Section 5 below we investigate whether these differences are correlated with differences between the two groups in thinking of dropping out.

2.2 Out-of-school sample

Next we present means for the explanatory variables for the out-of-school sample, where all questions in the survey referred to the interviewee's last year of school. This is presented in Tables 6-9 below. The proportion of out-of-school graduate reporting that they had sufficient food at home when they were in school relative to the proportion of dropouts reporting the same is relatively large. Graduates also report engaging in more activities outside school and extra-curricular activities in school relative to dropouts. Perhaps counter-intuitively, high school graduates report having been bullied in school to a greater extent than high school dropouts. 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.

Table 2: **In-school sample: Means of Individual-Related Variables by 'At Risk' Status**

Student thinking of dropping out?	**No**	**Yes**
Enough food at home (0/1)	0.691	0.514
Enough beds (0/1)	0.910	0.855
Quiet (0/1)	0.854	0.800
Job (0/1)	0.367	0.246
Number of jobs at home (continuous)	2.081	2.138
Hunting (0/1)	0.000	0.014
On the land (0/1)	0.160	0.243
Activities outside school (continuous)	1.812	1.657
Children (0/1)	0.094	0.108
Lost someone to suicide (0/1)	0.795	0.939
Gang (0/1)	0.402	0.537
Bullied (0/1)	0.794	0.892
Drugs (0/1)	0.215	0.329
Alcohol (0/1)	0.387	0.643
Smoke (0/1)	0.530	0.743
In home for how long (0/4)	3.090	3.159
Speak Inuktitut (0/1)	0.656	0.710

Table 3: **In-school sample: Means of Parental Variables by 'At Risk' Status**

Student thinking of dropping out?	**No**	**Yes**
Parent Occupation (0/1)	0.569	0.414
Parent Schooling (0/1)	0.630	0.443
Parent Time (0/1)	0.707	0.586
Parent Opinion (0/1)	0.895	0.786

Table 4: **In-school sample: Means of Friend-Related Variables by 'At Risk' Status**

Student thinking of dropping out?	**No**	**Yes**
Friends (1-3)	1.531	1.594
Friend opinion (0/1)	0.624	0.543
Friend dropout (0/1)	0.503	0.800
Friend substances (0/1)	0.409	0.429

Table 5: **In-school sample: Means of School-related Variables by 'At Risk' Status**

Student thinking of dropping out?	**No**	**Yes**
Inuit teachers (0-4)	1.069	1.138
Daycare (0/1)	0.674	0.716
Repeat/fail(0/1)	0.333	0.500
Driven to school (0/1)	0.503	0.357
Age started school (continuous)	4.702	4.809
School trip (0/1)	0.767	0.814
Extracurricular (0-7)	1.006	0.814
Computer in classroom (0/1)	0.860	0.857
Bullying in school (0/1)	0.584	0.641
School advice (0/1)	0.890	0.900

Table 6: **Out-of-school sample: Means of Individual-Related Variables by Dropout Status**

Dropout status	**Graduate**	**Dropout**
Enough food at home (0/1)	0.649	0.322
Enough beds at home (0/1)	0.870	0.732
Quiet (0/1)	0.818	0.778
Job (0/1)	0.829	0.529
Number of jobs in home (continuous)	2.605	2.696
Hunting (0/1)	0.740	0.669
On the land (0/1)	0.455	0.275
Activities outside school (continuous)	2.532	1.441
Children (0/1)	0.934	0.907
Lost someone to suicide (0/1)	0.919	0.818
Gang (0/1)	0.844	0.793
Bullied (0/1)	0.506	0.237
Drugs (0/1)	0.753	0.856
Alcohol (0/1)	0.390	0.331
Smoke (0/1)	0.727	0.708
In home for how long (0-4)	3.000	3.071
Speak Inuktitut (0/1)	0.883	0.863

Table 7: **Out-of-school sample: Means of Parental Variables by Dropout Status**

Dropout status	**Graduate**	**Dropout**
Parent Occupation (0/1)	0.753	0.436
Parent Schooling(0/1)	0.312	0.186
Parent Time (0/1)	0.753	0.699
Parent Opinion (0/1)	0.870	0.716

Table 8: **Out-of-school sample: Means of Friend-Related Variables by Dropout Status**

Dropout status	**Graduate**	**Dropout**
Friends (1-3)	1.494	1.528
Friend opinion (0/1)	0.545	0.534
Friend dropout (0/1)	0.688	0.831
Friend substances (0/1)	0.091	0.165

Table 9: **Out-of-school sample: Means of School-related Variables**

Dropout status	**Graduate**	**Dropout**
Inuit teacher (0-4)	1.028	1.231
Daycare (0/1)	0.421	0.238
Repeat/fail (0/1)	0.442	0.642
Driven (0/1)	0.519	0.326
Age started school (continuous)	4.842	5.018
School trip (0/1)	0.870	0.762
Extracurricular (0-7)	1.455	1.195
Computer classroom (0/1)	0.579	0.500
Bullying (0/1)	0.562	0.583
School advice (0/1)	0.890	0.917

3 Previous Study

This paper builds on a previous paper of our's which investigated the factors contributing to educational attainment in Northern Communities relative to the rest of Canada using the 2001 and 2006 Aboriginal Peoples' Survey (APS). The APS provides data on the social and economic conditions (for example, health, language, employment, income, schooling, housing, and mobility) of Aboriginal people in Canada aged 15 and over. To determine the importance of various factors in explaining differences in high school attainment between Aboriginal people in Northern communities and the rest of Canada, we estimated the following regression:

$$Grad_{ijt} = \alpha_0 + \alpha_1 t_{2005} + \alpha_2 \text{North} + \alpha_3 \text{North} * t_{2005} + \beta X_{ijt} + \epsilon_{ijt} \quad (1)$$

where the dependent variable Grad = 1 if respondent i in region j at time t attained high school; = 0 otherwise. The difference-in-difference setup of the regression includes a dummy variable for Northern communities (North), dummy for the year 2005 (t_{2005}) and an interaction variable (North*t_{2005}). We estimated regression (1) for the 20-25 year old age group in the APS, controlling for whether respondents can speak Inuktitut, had an Aboriginal teacher, had a major health condition, had moved in the last 5 years, were taught about Aboriginal history/peoples in school and whether they smoked. The statistical significance of the estimated coefficients for these control variables indicated the importance of differences in these variables in explaining the gap in high school attainment. The estimates indicated that with the exception of being taught by an Aboriginal teacher and health status, all other control variables were important for explaining the difference in high school attainment. Further, all other control variables, except being taught about Aboriginal history/people were associated with lower probability of high school attainment.

Comparing the estimated coefficients for the variable North for the two regressions (that with and without the control variables), we found that adding control variables reduced the difference between the regions from 42% to 15% for the year 2000. In other words, the control variables accounted for about 63% of the gap in high school attainment in the year 2000. For the year 2005 these variables accounted for 57% of the gap in high school graduation. The variables indicating whether a respondent speaks an Aboriginal language or smokes were most important in explaining the difference between the regions in high school graduation.

We also investigated whether there are lower incentives for completing high school in Northern communities relative to Southern communities by examining differences in unemployment rates and incomes for high school graduates and non-graduates between the North

and the rest of Canada. We found that there were no statistically significant differences in unemployment rates between the North and the rest of Canada, but that the earnings premium for a high school education was higher in the North than in the South. Due to these findings we concluded that there is no evidence in favour of a 'demand-side story' that teenagers in the North opt out of high school because high school graduates are in relative over-supply.

In our analyses in the Section 5, we begin by investigating whether similar variables as those used in our analysis of APS data are significant in our Nunavut data. We did not however collect data on health and whether the respondent learned about Aboriginal peoples in school.

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 use 'Wordles' (Jonathan Feinberg - http://www.wordle.net/) to illustrate the prominence of qualitative responses provided to questions we asked in the survey. Wordles are pictures illustrating the dominance of words appearing in a collection of phrases or sentences. The first Wordle below illustrates reasons for missing days of school among both the in and out-of-school samples, and it is provided in Figure 1. There are two very common reasons put forward - 'sleeping in' and 'sick'. The third and fourth most common reasons were 'hunting' and 'staying up late' (which is very similar to 'sleeping in').

Figure 2 highlights common reasons put forward for dropping out of school among the out-of-school sample. Reasons put forward are quite varied, but the three most prominent are drugs, bullying and babysitting.

Next we asked youth what they thought would arise in their community from an increase in high school graduation. Jobs was the most common answer, followed very closely by the more general 'opportunities' and 'educated/education'. Responses were almost uniformly positive.

Figure 1: Reasons for Missed Days of School

Figure 2: Reasons for Dropping Out

Figure 3: Importance of High School Education

5 Regression Analysis

5.1 In-school sample

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 dependent variable 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. Table 10 below presents summary statistics for these two dependent variables.

Table 10: **Means of Dependent Variables**

	Missed school days per week	**Thought of dropping out?**
mean	1.01	0.29
min	0	0
max	5	1

To determine the importance of our variables of interest in explaining differences in the two dependent variables just mentioned, we estimate regressions of the following form:

$$\mathrm{Y}_i = \alpha + \beta X_i + \epsilon_i, \tag{2}$$

where Y_i represents either respondent i's missed school days per week or whether they have thought about dropping out of school. This approach allows us to determine how much of the variation in Y can be accounted for by the variables we consider for our analysis.

We initially consider the dependent variable indicating a student's missed school days. We first estimate regression (2) with only those variables that are counterparts to those used in our APS analysis. This is presented in Column 2 of Table 11 below.

The statistical significance of the estimated coefficients for the control variables indicates the importance of differences in these variables in explaining variation in missed school days in our in-school sample. As in our analysis of the APS data, we find that smoking and speaking Inuktitut are associated with missing days of school. Unlike in our analysis of the

Table 11: **Dependent Variable: Missed school days**

	APS	APS+controls
Speak Inuktitut	0.513***	0.245
	(0.17)	(0.17)
Inuit teachers	0.112	0.172
	(0.18)	(0.17)
In home how long	0.026	0.064
	(0.05)	(0.05)
Smoke	0.438***	0.188
	(0.16)	(0.17)
Expected income after high school	-0.176	-0.013
	(0.13)	(0.13)
Drugs		0.090
		(0.19)
Alcohol		0.084
		(0.18)
Friends		-0.088
		(0.13)
Friends dropout		0.169
		(0.17)
Parent's edu. level		-0.131
		(0.17)
Parents' time on school work		-0.321*
		(0.17)
Parents' opinion of school		-0.910***
		(0.26)
Parents' occupation		-0.144
		(0.17)
Repeat/fail		0.418**
		(0.17)
Age started school		-0.173
		(0.13)
Day care		-0.510***
		(0.17)
Constant	0.632	2.565***
	(0.45)	(0.81)
N	216	204
R^2	0.110	0.297

Note: Standard errors in parenthesis. ***, **, * signify 1%, 5% and 10% level of significance, respectively.

APS data however, we find that having an Inuit teacher is not associated with students' tendency to miss school.

We then include individual-specific, friend-related, parental and school-related variables into our regression. We find that a parent's time spent with their child on school work and their opinion of their child's schooling are significantly and negatively associated with missed school days. This suggests that children whose parents spend time with them on their school work and, especially, who encourage their children to attend school, are likely to miss the fewest days of school. We also find that attending day care is negatively associated with missed school days, while repeating or failing a grade is positively associated with missed school days. In addition, we find that after controlling for friend-related, parental and school-related effects, smoking and speaking Inuktitut are not associated with missing school days.

Next we consider the dependent variable indicating whether a student has thought of dropping out of school - what may be termed their 'at risk' status. As this variable is a dummy variable, we run a probit on the same specifications as in Table 11. Instead of examining the coefficient estimates of the regressions, it is more intuitive to consider the effect of a marginal change in an explanatory variable on the dependent variable. Such marginal effects are computed for each explanatory variable with all other variables held at their mean values, and the results are presented in Table 12 below.

In column 2 we again consider only those variables with parallels from our APS analysis. As for the last dependent variable, smoking is positively and significantly associated with thinking of dropping out of school. For this dependent variable however, the student's assessment of their return to a high school education is also significant. In particular, if a student feels the return to a high school education is high, they are less likely to think of dropping out of high school.

We then add new variables from our Nunavut survey. We find that consuming alcohol is significantly and positively associated with thinking of dropping out of school. Whether a student has had friends drop out of school or not is also significant - a student who has had friends drop out of high school is 17% more likely to think of dropping out of school. A parent's education level is negatively associated with the child's considering dropping out of school. And the dummy variable indicating whether either of the student's parents has a formal sector job has a significant effect on the probability of a student considering leaving school. Specifically if a parent has a formal sector job, a student is 16% less likely to consider dropping out of school.

In addition, the older a child is when they start school, the more likely it is that they think about dropping out of school. The marginal effects of alcohol use and a parent's education level are the largest. Finally, as with the dependent variable 'missed school days',

Table 12: **Dependent Variable: Think about drop**

	APS	APS+controls
Speak Inuktitut (d)	-0.048	-0.072
	(0.070)	(0.078)
Inuit teachers	0.072	0.039
	(0.067)	(0.074)
In home how long	0.007	0.009
	(0.021)	(0.023)
Smoke(d)	0.223***	0.063
	(0.060)	(0.071)
Expected income after high school	-0.096**	-0.097*
	(0.048)	(0.054)
Drugs (d)		-0.017
		(0.076)
Alcohol (d)		0.249***
		(0.077)
Friends		0.011
		(0.055)
Friends dropout (d)		0.172**
		(0.065)
Parent's edu. level (d)		-0.218***
		(0.078)
Parental time on school work (d)		-0.071
		(0.076)
Parents' opinion of schooling (d)		-0.193
		(0.134)
Parents' occupation (d)		-0.161**
		(0.077)
Repeat/fail (d)		0.031
		(0.073)
Age started school		0.112**
		(0.055)
Day care (d)		0.053
		(0.068)
Constant	-0.478	-1.446
(d) for discrete change of dummy variable from 0 to 1		
N	215	203

Note: Standard errors in parenthesis. ***, **, * signify 1%, 5% and 10% level of significance, respectively.

after controlling for variables from our own survey, the association between smoking and 'thinking about dropout' is not statistically significant.

5.2 Out-of-school sample

Next we analyze the determinants of dropout in the out-of-school sample. Our dependent variable is now the dummy variable indicating dropout - if a respondent has graduated from high school, this variable takes the value of 1, and if they dropped out of high school at any point before graduation it takes on the value of zero. We run a probit for the same specifications as for the in-school sample and report marginal effects in Table 13 below.

Unlike results for the in-school sample, we find that none of the variables found to be significant in our analysis of the APS are significantly associated with high school dropout in our out-of-school sample. Adding indicators of substance use during high school reveals that drug use during high school is correlated with dropout. Having friends in high school who dropped out of school or repeating/failing a grade is positively associated with high school dropout. Having a parent with a formal sector job or attending day care is negatively associated with dropout. The marginal effects of drug use and peer dropout are the largest, both being associated with a 20% greater probability of dropping out of school.

6 Conclusions

In sum, we find that differences in all 4 of the categories of variables introduced in Section 2 are correlated with considering and actually dropping out of high school in the Nunavut context. The school-related variables that are associated with missed school days and high school dropout are the dummy variables indicating whether a respondent attended day care or whether they repeated or failed a grade. The former 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 latter is interesting in the context of the debate surrounding Social Promotion in Nunavut. Social Promotion discourages failing students, and many believe this is harmful to the student who is passed to the next grade unprepared. 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 14% more likely to drop out of school.

A youth's friends dropping out appears to have a large impact on that youth's school experience in both the in-school and out-of-school samples. A youth is 21% more likely to have dropped out of school if they had friends who also dropped out, and a student is 17% more likely to think about dropping out of school if their friends have already dropped out.

Table 13: **Dependent Variable: Dropout**

	APS	APS+controls
Speak Inuktitut (d)	-0.051	-0.171**
	(0.077)	(0.061)
Inuit teacher	0.094*	0.053
	(0.053)	(0.056)
In home how long	0.008	0.004
	(0.019)	(0.020)
Smoke (d)	0.041	0.008
	(0.066)	(0.069)
Expected income after high school	-0.063	-0.010
	(0.044)	(0.049)
Drugs (d)		0.193**
		(0.100)
Alcohol (d)		-0.049
		(0.066)
Friends		0.026
		(0.054)
Friend dropout(d)		0.209**
		(0.097)
Parent's edu. level(d)		-0.093
		(0.082)
Parent's time on school work(d)		-0.039
		(0.070)
Parent opinion of school (d)		-0.072
		(0.070)
Parent occupation (d)		-0.169***
		(0.062)
Repeat/fail (d)		0.126**
		(0.063)
Age started school		0.024
		(0.047)
Daycare (d)		-0.135*
		(0.076)
Constant	0.841	0.320
N	244	230
(d) for discrete change of dummy variable from 0 to 1		

Note: Standard errors in parenthesis. ***, **, * signify 1%, 5% and 10% level of significance, respectively.

Such peer effects are common in the literature and they suggest a 'herding' effect - that once some students decide to drop out this negatively affects other students' satisfaction with school. The fact that this effect is present in both samples indicates that it has not subsided over the past decade or so.

Parental variables are also revealed to be 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 benefitting economically from having a high school diploma. A parent's education level and positive view of their child's schooling is associated with their child missing fewer days of school and being less likely to consider dropping out. The former confirms a very strong relationship between parental and child human capital found in the literature. The latter is quite straightforward - parents are thought to be key in passing on a 'taste for education'. 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 number of variables are only significant for one dependent variable/sample. Parental time spent on school work is associated with fewer missed school days, likely because students enjoy school more (and therefore attend more) if they are better prepared for school. The dummy variable indicating the ability to speak Inuktitut is negatively correlated with dropping out of school. This result may indicate that students that are more integrated into Inuit culture have a stronger identity/self-esteem which in turn enhances their performance at school.

We included in our regressions a variable indicating the extent to which youth believe there is a positive return to high school education in terms of income. This allowed us to control for the demand-side of the high school dropout issue. We find that youth who expect to earn more once receiving their high school diploma are less likely to think about dropping out of high school. This suggests that perhaps more should be done to alert students to the very high returns to high school education in Nunavut[2].

Finally we find a large impact of substance abuse on potential/actual school dropout. Students who reported drinking alcohol are 25% more likely to think about dropping out of

[2]In Canada, a person's average earnings without a high school diploma was $20,833 in 2006. This contrasts with the average earnings for an individual with a high school education ($28,038), with a college diploma ($36,785) and with a bachelor's degree ($57,495) (Statistics Canada, 2006 Census of Population). The return to schooling is even higher in Nunavut. In 2006, the average earning for males with a high school diploma was 1.5 times higher than that for males without a high school diploma, while for females it was 1.6 times higher.

school, while youth that did drugs during high school are 20% more likely to have dropped out. This indicates that initiatives to prevent youth from experimenting with drugs and alcohol are extremely important. The influence of drug use on dropping out was also highlighted in our qualitative analysis.

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