Uncovering the Cultural Clash

Assessing the Impact of Ancestral Knowledge on Educational and Employment Differences for Aboriginal Canadians Living Off-Reserve

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Acknowledgments

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I.   Introduction

Beginning with the seminal work of Borjas (1985), much has been written by economists on the economic outcomes of immigrants in North America. Specifically, many researchers have studied the role of assimilation, and how it affects earnings for immigrants in subsequent generations. One area of particular interest to economists has been language, and how immigrant retention of their mother tongue in addition to knowing the 'destination language' of the country they are moving to aids or inhibits their educational or employment opportunities. Language has interested economists as it can act as a proxy for measuring a person's ties to their culture as well as their ability to integrate economically in another country. While using their mother tongue enables immigrants to maintain closer connections to their home country, being fluent in the destination language enables them to have expanded economic opportunities in the country they have chosen to migrate to. Without knowledge of the destination language, immigrants will likely receive lower returns to their prior educational or work experience.[1]

Despite the plethora of literature written on this subject, minimal research has been conducted by economists looking at Aboriginals in North America and how their economic outcomes are affected not only by retention of their indigenous languages,[2] but also other measures such as self-government and participation in cultural activities. While these latter variables do not have the same intuitive link to earnings and educational attainment as language, they present an opportunity to study the relationship between cultural maintenance on earnings,

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[1] Ferrer, Green and Riddell (2006) find that wage gaps between immigrant workers and native born workers would reduce by 15 to 20 log points – or two thirds of their earnings disadvantage – if immigrants could acquire the same literacy skills as native born workers. This gap, however, is more prevalent for less educated workers.

[2] For the remainder of this paper, both the terms 'indigenous language' and 'Aboriginal language' will be used interchangeably.

employment and educational outcomes. With over 50 percent of Aboriginals in Canada currently living off-reserve, analyzing these relationships has become a pertinent topic to study.[3]

Social scientists in other disciplines, such as psychology, have used the data available on Aboriginals to analyze the effects of rejecting assimilation – or more specifically, maintenance of cultural ancestry – on outcomes more directly related to their fields of research, such as suicide prevention. Overall, a strong positive correlation has been found between enhanced ties to cultural ancestry and better social outcomes for Aboriginals in Canada. These connections have generally been associated with Aboriginals acquiring an enhanced self-esteem, and sense of where they fit into society as a whole.

The aim of this paper is to study the connection between cultural maintenance on earnings, employment and educational outcomes for Aboriginals living off-reserve in Canada. In doing so, I hope to discover how Aboriginal Canadians who already live in an assimilated environment vary in these three outcomes based on knowledge of various determinants of their heritage, such as having the ability to speak an Aboriginal language. Not only is this research unique, but it enables me to integrate work done in various fields and potentially provide initial insights for important public policy questions in Canada today.

Using the data from the 2006 Aboriginal Peoples Survey, the most important relationship I examine pertains to an Aboriginal person's knowledge of an indigenous language. In particular, I study the relationship between a respondent's ability to speak an indigenous language with their earnings, number of weeks employed and education level. In the initial

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[3] As of the 2006 Census, Aboriginal Canadians are the fastest growing population in Canada. Besides increasing fertility rates and mobility, Indian and Northern Affairs Canada cites more individuals identifying themselves as Aboriginal as a reason for this trend. More information can be found on this topic at http://www.ainc-inac.gc.ca/ai/ofi/uas/fs/index-eng.asp.

models examined I find a strong negative correlation between an individual's ability to speak an Aboriginal language with their earnings, weeks employed in a year and educational attainment, suggesting that simply knowing an Aboriginal language has a detrimental effect with respect to the dependent variables mentioned.

However, upon adding variables pertaining to usage of an Aboriginal language in various settings to form three revised models, I find some interesting caveats to the initial results. Specifically, I find that individuals who not only know how to speak an Aboriginal language but use it at work fare better than their peers in all the three measures mentioned above. By contrast, survey respondents who know an indigenous language and speak it at home experience poorer outcomes for all three dependent variables. The results from the revised models provide a distinction between merely knowing how to speak an Aboriginal language and using it in different settings. Using availability of services in an Aboriginal language as an instrumental variable for a person's ability to speak an indigenous language, I re-examine both the initial as well as revised models and find that the majority of results are maintained.

The remainder of this paper is organized as follows: The prominent literature is highlighted in Section II, while in Section III the methodology used in the paper is discussed. In Section IV, the primary results are interpreted, while concluding remarks are contained in Section V.

II. Literature Review

This study is primarily influenced by four papers which focus on the earnings of immigrants in Canada, the impact of assimilation on earnings for Aboriginals in Canada, and the

effect of ancestry on Aboriginal suicide rates. While each paper explores a different research question, they all have aspects that relate to the question of how Aboriginal identity affects earnings and education levels of Aboriginals in Canada. Taken together, these four studies provide the biggest influence on the methodological approach utilized in Section III.

Within the immigration literature, one notable paper by Chiswick and Miller (2003) examines the relationship between how often immigrants speak their mother tongue in a foreign country and their earnings. Specifically, the authors are concerned with deciphering how immigrants with equal levels of education and experience differ in earnings based on how frequently they speak either their mother tongue or the destination language once they settle in Canada. Chiswick and Miller (2003) separate immigrants into three categories: individuals who have limited knowledge of the destination language, individuals who know the destination language but use their mother tongue at home, and individuals who know the destination language and use it at home. Overall, they show that the third group is remunerated the best based both on their pre-emigration experience as well as prior education attained in their home country. In other words, they find that ceteris paribus, immigrants who use a destination language at home rather than their mother tongue will acquire higher earnings than their peers who have equal levels of education and work experience. Their study is important as it establishes an important distinction between knowledge and usage of a mother tongue or indigenous language. The authors demonstrate that even among individuals who speak a foreign language, those who use it in different settings may experience discrepancies in their earnings.

With regards to Aboriginal assimilation and earnings, two primary papers have been published relating Aboriginal integration into the dominant North American culture and their

respective earnings. Using data from the 1986 Canadian Census, Kuhn and George (1994) use a Probit model to analyze predicted earnings differentials between male and female Aboriginals and other Canadians. Interestingly, they find that the earnings gap for full-time employed Aboriginals is only 11 percent compared to Caucasian Canadians, far lower than the observed 35 percent wage differential between Canadian men and women in their survey.

Building off this paper, Kuhn and Sweetman (2002) use an identical methodological approach to study how earnings vary among Aboriginals who have assimilated into mainstream Canadian culture versus those who have not. Specifically, they use three markers to study the effects of assimilation on Aboriginal earning differentials, comparing individuals' whose parents have married with a Caucasian versus individuals' whose parents are both of Aboriginal origin, Aboriginals who live on reserves versus off-reserve, and those who live in the Northwest Territories and Yukon versus the rest of the country. Each of these indicators, they argue, provides a crude measure to compare Aboriginals who have aligned into mainstream Canadian culture versus those who have not. Using 1991 Public Use Census data, they find that individuals who concur with all three measures of assimilation would have better labour market outcomes than their peers, lending some evidence to the economic benefits of assimilation. For example, they find that an Aboriginal person whose parents are both of Aboriginal origin would, on average, have earnings 12 percent lower than individuals who have at least one Caucasian parent. One issue with their findings, however, is that they do not take into account the non-randomness of their sample; the process of finding a marriage partner is not entirely random, and as such their conclusions may not be entirely unbiased. Another issue with this study, as identified by Kuhn and Sweetman (2002), is that the data does not allow the authors to take into account the effects of discrimination that Aboriginals without any Caucasian background

potentially encounter. Nonetheless, their results do indicate that Aboriginals who are able to better integrate into mainstream culture, be it geographically, linguistically or through parental matching, have higher earnings than their peers.

A major shortcoming of the economics literature on Aboriginals is that the variables used to measure cultural assimilation have generally been limited to marriage or language, leaving out many other variables such as self-government, educational services and participation in religious or spiritual activities. Psychologists Chandler and Lalonde (1998) use these measures, among others, to study what they define as 'cultural continuity' and how it impacts youth suicide rates. Looking at data collected from British Columbia bands from 1987 to 1992, they find that Aboriginal bands that adhere to their six measures of cultural heritage[4] have adolescent suicide rates drop to zero, while bands that demonstrate none of these measures have suicide rates that are 500 times above the national average. While the study does provide some insight into the importance of the links between the maintenance of culture and reduction in suicide, it does not take into account the likelihood of endogeneity between suicide rates and the variables chosen as markers of cultural continuity. Nonetheless, their paper does provide some insight into how enhanced knowledge of an Aboriginal person's culture and ancestry can enable them to acquire a higher sense of self-worth, leading to a healthier and longer life.

The findings of Chandler and Lalonde (1998) are significant, as they demonstrate that Aboriginals who have a greater awareness of their culture can experience enhanced social outcomes. However, their study leaves much scope for study in two areas. First, the authors focus their attention on Aboriginals living on a reserve, meaning their conclusions may not be

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[4] The six variables they use to measure cultural continuity are as follows: acquisition of self-government, attempts to re-acquire traditional lands, having unique educational, police and protection or health delivery services and evidence of tribal participation in cultural activities.

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applicable to those living off-reserve. As over half of Canada's Aboriginal population currently lives off-reserve, this is a significant percentage of the population not considered by their study. Second, Chandler and Lalonde (1998) do not address how having enhanced ties to cultural heritage affects various economic indicators for Aboriginals in Canada, namely earnings, education levels and duration of employment in a given year.

Using these four primary papers, I combine the findings of these studies to examine how cultural maintenance – in which I include knowledge and usage of a person's indigenous language – affects earnings, employment and educational outcomes for Aboriginal Canadians living off-reserve in Canada today. I also use a set of instrumental variables to try to obtain a causal estimate of the impact of knowledge of an Aboriginal's indigenous language on the three dependent variables studied in the initial models examined.

III.   Methodology

In order to conduct the empirical investigation, I use confidential data from the 2006 Aboriginal Peoples Survey[5] (APS), which is a post-censal survey and contain two questionnaires – one surveying Aboriginals living off-reserve in Canada who are 6 to 14 years old, and another surveying Aboriginals living off-reserve in Canada who are over the age of 15. The major advantage of this data is it allows me to distinguish individuals by province, thereby enabling me to do a regional comparison of the results. In particular, having regional data allows me to test if Aboriginals living in Canada's Territories, which are the most isolated region of Canada, differ in educational or employment outcomes from Aboriginals living in other areas of Canada. Additionally, having regional data enables me to detect any major aberrations in the results for

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[5] Full disclosure of the data is restricted to the network of Research Data Centres.

various areas of Canada. The empirical investigation is comprised of three parts, with the first determining the effect of a number of cultural measures on earnings, education and employment, the second using a similar idea as Chiswick and Miller (2003) to differentiate language – as well as other education related variables – into specific sub-categories and determine its effects on the dependent variables in all three models, and the third re-examining all of the models using instrumental variables for whether a person speaks an indigenous language. Using these three specifications, I am able to expand on the research questions posed in previous economics literature.

Empirical Motivation

For this study, I am interested in deciphering the effect of knowing an indigenous language – among other variables – on the earnings, education level and employment status of Aboriginals in Canada. All three dependent variables have been chosen among a wide range of available data in the APS to provide the most accurate variables for analysis. For earnings, I use a variable measuring a person's self-reported earnings in 2005 from wages and salaries, income from unincorporated non-farm business and net farm self-employment earnings. While many variables related to income are reported in the APS, this is the best variable since it takes into account a person's current labour market activities.

To measure employment outcomes, I assign individuals by how many weeks they worked in 2005. Specifically, I designate respondents into six categories: no weeks worked in 2005, 1 to 13 weeks worked, 14 to 26 weeks worked, 27 to 39 weeks worked, 40 to 48 weeks worked or 49

to 52 weeks worked.[6] Since the APS does not contain information on exact hours worked during the year, it makes sense to keep a large number of groups for weeks worked as it is reasonable to assume that individuals who are employed for a larger number of weeks work for more hours than those who work a lower number of weeks. For the majority of models estimated I report only the results for 49 to 52 weeks, as this is the closest variable I have to measure 'full-time' employment.

The variable used to measure educational attainment ranges in value from one to seven and corresponds to each of the following levels of educational attainment: Grades 1 to 6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completed and university completion. While I am most interested in finding out the effects of maintaining a person's cultural ancestry with attaining a university degree, having seven distinct education levels for comparison provides the most accurate sub-categories for deciphering any major differences in the models estimated.

With the dependent variables specified, I initially tabulate differences in earnings, education and employment levels for individuals in the sample examined based on their ability to speak an indigenous language. This is important to tabulate to see if there are any differences in earnings, educational attainment or employment levels between the sample of speakers and non-speakers. The results are presented in Table 1:

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[6] To ensure adequate sample size, I combine both part-time as well as full-time workers into each employment category. The 2006 APS defines part-time work as any respondent who works 1 to 29 hours per week, while full-time work is defined as any respondent who works over 30 hours per week.

Table 1: Mean earnings, educational attainment and weeks worked

	non-speakers	speakers
earnings	$29,680	$21,670
grades 1 through 6	0.002	0.006
completed some high school	0.168	0.311
completed high school	0.159	0.117
some post-secondary	0.108	0.127
completed post-secondary	0.353	0.271
some university	0.043	0.055
completed post-secondary	0.166	0.112
no weeks worked	0.158	0.251
1-13 weeks worked	0.044	0.082
14-26 weeks worked	0.078	0.104
27-39 weeks worked	0.063	0.070
40-48 weeks worked	0.118	0.107
49 to 52 week worked	0.540	0.386

NOTES: Figures for educational attainment are calculated on a weighted sample of 59,780 speakers and 517,980 non-speakers. Figures for weeks worked are calculated on a weighted sample of 59,800 speakers and 517,990 non-speakers. All data released for public use from the RDC must be rounded to the nearest 10, leading to the slight discrepancy in the number of respondents tabulated.

Using these three measures, stark differences are noticeable between individuals who can and cannot speak an Aboriginal language. For example, 56 percent of non-speakers have either completed some post-secondary education or acquired some university education, compared to 44 percent of speakers. Similarly, 54 percent of non-speakers are employed for 49 to 52 weeks in 2005, compared to less than 40 percent of individuals who speak an Aboriginal language. These results provide a basis to proceed further in trying to explain the differentials in earnings, educational attainment and employment for Aboriginals based on language and other ancestral measures. Additionally, the data shows that roughly 10 percent of the sample speaks an indigenous language. With such a small number of individuals able to speak an Aboriginal language, this study should provide some further insight into whether or not it is economically beneficial for more Aboriginals to learn their indigenous language.

Initial Model Specification

In all of the models estimated, I restrict the sample to individuals between the ages of 24 to 59. I keep the minimum age in the sample at 24 to remove individuals who are potentially making education decisions and set the maximum age at 59 to remove individuals who are close to the age of retirement, and may therefore have supplementary sources of income available to them. To decipher the impact of age on earnings, education level and number of weeks employed, the results of each model are separated into two groups of survey respondents: individuals who are 24 to 41 years of age and individuals who are 42 to 59 years of age. All models are estimated accordingly to see if any of the major results change during a person's prime working years to when they begin to approach retirement years. This assumption is based on the earnings patterns of Canadians. Based on figures from Statistics Canada, earnings for Canadians increase by 31 percent between the ages of 25 to 40, but diminish in growth rate to 3.5 percent between the ages of 40 to 54.[7]

To obtain a few measures that potentially capture a respondent's link with their cultural heritage, I use the following three variables available in the APS data: a respondent's ability to speak an Aboriginal language, their ability to read or write an Aboriginal language and if a respondent has partaken in activities associated with traditional Aboriginal activities – namely if they have hunted, fished, gathered sweetgrass or trapped animals in the last year. In order to reduce the number of variables in all of the models, I create two binary variables. The first variable combines a respondent's ability to read and write an Aboriginal language as one binary

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[7] Data on median earnings for Canadians can be accessed at http://www12.statcan.ca/census-recensement/2006/dp-pd/hlt/97-563/T804-eng.cfm?SR=1.

measure, as reading and writing a language are highly correlated.[8] The other dummy variable measures if a survey respondent has taken part in any traditional activity within the last year. Beyond reducing the number of variables in the regression models, it is preferable to have one variable to measure participation in cultural activities as each of its components are related to one another.

For each model, regional dummies are included to control for if an individual lives in the Atlantic provinces, Quebec, Ontario, the Prairies, British Columbia or the Territories.[9] As the Territories are the most isolated and sparsely populated area of Canada, this is the omitted category. To decipher the effects of living in a rural versus urban region on employment and educational attainment, I also include a dummy variable indicating whether a person lives in a city or not. While not exact, this variable provides an approximate measure of the role of assimilation on Aboriginals' educational and employment outcomes, as individuals who live in urban areas[10] likely interact more frequently with non-Aboriginals and have better access to jobs and educational institutions.

Three other independent variables I include are dummy variables controlling for a respondent's gender, whether he or she has a parent that was a member of Canada's residential school program and if he or she has a self-reported long-term mental health condition. While controlling for gender is common in many empirical studies, the other two variables are unique to this paper. I include the residential schooling variable to control for any extenuating

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[8] Janopoulos (1986) finds a high correlation between enjoyment in reading and writing proficiency for subjects learning a second language.

[9] The Atlantic region consists of Prince Edward Island, Nova Scotia, New Brunswick or Newfoundland and Labrador. The Prairies region includes Manitoba, Saskatchewan or Alberta, while the Territories includes the Northwest Territories, Yukon or Nunavut.

[10] As of 2006, Statistics Canada defines a rural community as one that has less than 150 persons per square kilometre. Urban regions are defined as Census divisions where less than 15 percent of the population lives in a rural community.

circumstances a respondent may have experienced during their upbringing. Having been established to improve outcomes such as suicide rates for Aboriginals, I include a mental health dummy variable to capture its effects on the economic outcomes.

With the variables specified, I use Ordinary Least Squares for the first model to determine the effect of cultural maintenance on earnings[11]:

(1) $totinc_i = \beta_0 + \beta_1 age_i + \beta_2 gender_i + \beta_i \sum_3^7 region_i + \beta_8 urban_i + \beta_9 speak_i + \beta_{10} readwrite_i + \beta_{11} tradactivity_i + \beta_{12} pres_i + \beta_{13} mh_i + \varepsilon_i$

To estimate the models for an individual's education level and number of weeks employed, I use the following Ordered Probit models[12]:

(2) $schooling_i = \beta_0 + \beta_1 age_i + \beta_2 gender_i + \beta_i \sum_3^7 region_i + \beta_8 urban_i + \beta_9 speak_i + \beta_{10} readwrite_i + \beta_{11} tradactivity_i + \beta_{12} pres_i + \beta_{13} mh_i + \varepsilon_i$

(3) $employment_i = \beta_0 + \beta_1 schooling_i + \beta_2 age_i + \beta_3 gender_i + \beta_i \sum_4^8 region_i + \beta_9 urban_i + \beta_{10} speak_i + \beta_{11} readwrite_i + \beta_{12} tradactivity_i + \beta_{13} pres_i + \beta_{14} mh_i + \varepsilon_i$

Model Refinement

While it is possible to estimate the effects of the independent variables tested on earnings, educational attainment and number of weeks employed by respondents on a general level with the initial models presented, they lack some precision. Specifically, the models do not delve further into variables such as language or cultural heritage, and determine how usage of language

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[11] Model 1 and all subsequent Models with earnings are also tested using the logarithm of earnings as a dependent variable. This is done to determine both the dollar magnitude as well as percentage impact of all independent variables on earnings. For Models administered using log earnings the sample size is reduced from 15,343 individuals to 12,524 individuals, as those individuals who have negative earnings – or are in debt – are dropped from the sample.

[12] The exact specification of the variables used in this paper is found in Appendix A.

in various settings or further knowledge of ancestry affects the dependent variables estimated. Accordingly, I add variables to equations (1), (2) and (3) to construct the following, refined models:

$$(4)\ totinc_i = \beta_0 + \beta_1 age_i + \beta_2 gender_i + \beta_i \sum_3^7 region_i + \beta_8 urban_i + \beta_9 speak_i + \beta_{10} readwrite_i +$$
$$\beta_{11} tradactivity_i + \beta_{12} pres_i + \beta_{13} mh_i\, \beta_{14} langhome_i + \beta_{15} langelse_i + \beta_{16} langwork_i + \varepsilon_i$$

$$(5)\ schooling_i = \beta_0 + \beta_1 age_i + \beta_2 gender_i + \beta_i \sum_3^7 region_i + \beta_8 urban_i + \beta_9 speak_i + \beta_{10} readwrite_i$$
$$+ \beta_{11} tradactivity_i + \beta_{12} pres_i + \beta_{13} mh_i + \beta_{14} history_i + \beta_{15} edtaught_i + \beta_{16} abhis_i$$
$$+ \beta_{17} langhome_i + \beta_{18} langelse_i + \beta_{19} langwork_i + \varepsilon_i$$

$$(6)\ employment_i = \beta_0 + \beta_1 schooling_i + \beta_2 age_i + \beta_3 gender_i + \beta_i \sum_4^8 region_i + \beta_9 urban_i + \beta_{10} speak_i +$$
$$\beta_{11} readwrite_i + \beta_{12} tradactivity_i + \beta_{13} pres_i + \beta_{14} mh_i + \beta_{15} langhome_i + \beta_{16} langelse_i + \beta_{17} langwork_i + \varepsilon_i$$

Models (4), (5) and (6) contain binary variables measuring the impact of using an Aboriginal language at home, work and elsewhere on earnings, employment and educational outcomes of respondents. These variables are included to build off the idea of Chiswick and Miller (2003) and determine how usage of language in various settings impacts the results determined in Model (1) through Model (3). Specifically, these additional language variables will test whether or not Aboriginals who speak an indigenous language more frequently show differences in earnings, weeks worked and education levels from their peers. Model (5) builds off of the original education model with three new variables included to assess the impact of having Aboriginal teachers, as well as being taught in an Aboriginal language and about Aboriginal history when a respondent was either in elementary or high school. These variables provide an approach to measure of the importance of having a greater Aboriginal influence on a

person's education. In other words, they give a way to quantitatively measure the importance of

having increased ties to a person's cultural ancestry on their educational attainment.

IV.   Results

Initial Model Results

A summary of initial results is in Tables 2 through 6[13]:

Table 2: Earnings and Log Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
speak	-10,627	-11,468	-0.30	-0.29
language	[-8.85]**	[-7.07]**	[-4.65]**	[-3.45]**
read/write	1,695	2,703	-0.11	-0.01
language	[1.23]	[1.47]	[-1.16]	[-0.08]
traditional	-515	-563	-0.07	0.01
activity	[-0.58]	[-0.50]	[-1.47]	[0.15]
R^2	0.1039	0.0791	0.0835	0.0532
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places.

Table 3: Educational Attainment For Individuals 24-41 Years of Age

	Level 1	*Level 2*	*Level 3*	*Level 4*	*Level 5*	*Level 6*	*Level 7*
speak	0.002	0.118	0.041	0.007	-0.063	-0.019	-0.086
language	[2.37]**	[6.24]**	[7.57]**	[6.42]**	[-5.78]**	[-6.40]**	[-7.57]**
read/write	-0.001	-0.052	-0.025	-0.008	0.023	0.010	0.053
language	[-3.53]**	[-3.13]**	[-2.77]**	[-2.28]**	[3.56]**	[2.94]**	[2.71]**
traditional	-0.001	-0.042	-0.019	-0.006	0.019	0.008	0.04
activity	[-4.45]**	[-4.38]**	[-3.98]**	[-3.62]**	[4.50]**	[4.20]**	[3.97]**
Pseudo R^2	0.0168						
Observations	7,886						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

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[13] All tables presented in the main body of the text have results for the 'speak,' 'read/ write' and 'traditional activity' variables. In the Refined Model section, depending on the model estimated, results for 'home speak,' 'work speak,' 'other speak,' 'history,' 'taught in language' and 'aboriginal teachers' are also presented. Tables with the full set of coefficients can be found in Appendices B, C and D.

Table 4: Educational Attainment For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
speak language	0.005 [2.99]**	0.081 [4.46]**	0.020 [5.54]**	0.002 [3.75]**	-0.045 [-4.20]**	-0.010 [-4.75]**	-0.052 [-5.08]**
read/write language	-0.004 [-3.44]**	-0.100 [-6.77]**	-0.037 [-5.22]**	-0.011 [-4.03]**	0.042 [8.80]**	0.014 [5.53]**	0.096 [5.22]**
traditional activity	-0.003 [-3.40]**	-0.59 [-5.67]**	-0.019 [-5.19]**	-0.004 [-4.09]**	0.029 [5.65]**	0.008 [5.22]**	0.048 [5.33]**
Pseudo R^2	0.0084						
Observations	7,457						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 5: Number of Weeks Employed For Individuals 24-41 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
speak language	0.107 [6.28]**	0.025 [6.66]**	0.025 [7.91]**	0.008 [8.06]**	-0.001 [-0.97]	-0.164 [-7.23]**
read/write language	-0.006 [-0.41]	-0.002 [-0.48]	-0.002 [-0.44]	-0.001 [-0.53]	0.000 [-0.39]	0.011 [0.42]
traditional activity	0.022 [2.13]**	0.006 [2.19]**	0.006 [2.10]**	0.002 [2.28]**	0.001 [3.27]**	-0.038 [-2.21]**
Pseudo R^2	0.0345					
Observations	7,886					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Table 6: Number of Weeks Employed For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
speak language	0.114 [5.56]**	0.010 [5.56]**	0.014 [6.40]**	0.008 [7.10]**	0.005 [5.40]**	-0.150 [-6.06]**
read/write language	0.006 [0.24]	0.001 [0.37]	0.001 [0.26]	0.001 [0.42]	0.001 [0.45]	-0.008 [-0.22]
traditional activity	0.029 [2.31]**	0.003 [2.28]**	0.004 [2.15]**	0.003 [2.67]**	0.003 [2.96]**	-0.041 [-2.31]**
Pseudo R^2	0.0355					
Observations	7,457					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Most notable from the results, in all six models estimated, Aboriginals who know how to speak an indigenous language have lower earnings than their peers as well as a lower probability of finishing post-secondary education and being employed full-time. Particularly striking are the results for employment; controlling for all other factors, an individual who knows how to speak an Aboriginal language is 15 to 16 percent less likely to be employed between 49 to 52 weeks.

Similarly for educational attainment, an individual between the ages of 24 to 41 who knows how to speak an indigenous language is nearly eight percent less likely to have completed a university degree and six percent less likely to have completed a non-university degree. Furthermore, individuals who know how to speak an indigenous language are predicted to earn nearly $10,500 to $11,500 less than no-speakers – a figure that amounts to 30 percent less in earnings per year. As this survey is conducted in either English or French,[14] nearly all respondents have at the very least a rudimentary knowledge of either language. This means that even with a working knowledge of one of Canada's two official languages, Aboriginals who know how to speak an indigenous language fare worse in terms of earnings, education and employment outcomes, supporting the assimilation argument proposed by Kuhn and Sweetman (2002).

In contrast to these findings, the dummy variable for having the ability to read or write an Aboriginal language gives evidence opposing the assimilation hypothesis. Survey respondents who have the ability to read or write an indigenous language have a higher probability of acquiring a university degree; controlling for all other factors, individuals who can read or write an Aboriginal language are five to nine percent more likely to complete a university degree. These results are surprising, as it seems contradictory that an individual benefits from knowing how to read or write an indigenous language but fares worse than their peers by retaining how to speak the same language. This result does, however, adhere to the findings of Hart et. al (1990), who find that children of immigrants who are literate in their mother tongue have an easier time acquiring another language, as compared to those who can only speak their mother tongue. Therefore, Aboriginal children who are able to both read and write their indigenous language

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[14] The survey documentation can be accessed at http://www.statcan.gc.ca/imdb-bmdi/instrument/3250_Q7_V1-eng.pdf.

may also be more likely to be literate in either French or English, thereby giving them a greater likelihood of attending university.

Besides reading or writing an Aboriginal language, individuals who partake in what is defined as 'traditional activities' show a greater likelihood of finishing any form of post-secondary education, but a lower likelihood of being employed. Lacking consistency in findings, or any previous literature on this subject, it is difficult to provide an intuitive explanation for these findings. These results should be interpreted with caution, however, for two reasons. First, it is somewhat stereotypical to classify these activities listed as Aboriginal activities, as not all Aboriginals – particularly youth – identify these activities as being part of their heritage.[15] Second, some individuals who partake in these activities do so for employment, causing the variable to be measured incorrectly in the employment regression.

While living in a city has a statistically significant impact on educational attainment – survey respondents below the age of 41 who live in a city are four percent more likely to complete a university degree – it is insignificant for determining a person's earnings as well as number of weeks employed. The results for educational attainment could be influenced by the fact that there are more universities located in urban areas, thereby making it more likely for individuals raised in cities to complete a university degree. These results also suggest living in an urban area does not impact earnings or number of weeks employed, indicating Aboriginals living in rural areas are still able to access employment opportunities and earn comparable wages to those living in cities.

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[15] Further discussion on this issue can be found on TVO's *The Agenda*:
http://www.tvo.org/cfmx/tvoorg/theagenda/index.cfm?page_id=7&bpn=779378&ts=2008-11-27%2020:01:05.0.

Doing a cross country comparison of the results, Model (2) confirms that individuals who live in any one of Canada's provinces – and therefore have greater access to the majority of Canada's post-secondary institutions – have a higher likelihood of completing a post-secondary degree than those living in any of the Territories. For employment, though, the results for the regional dummies are not as decisive. In fact, ceteris paribus, Aboriginals living in the majority of provinces in Canada have a lower probability of being employed for 49 to 52 weeks compared to Aboriginals living in the Territories. Similarly, survey respondents who live in any of Canada's provinces earn less than those who live in one of the Territories. The combination of these three results indicates that while living in the Territories may be a detriment to an Aboriginal person completing a post-secondary degree, it may not inhibit their employment opportunities. In particular, these results highlight that individuals who work in the Territories are more likely to find employment that does not require a post-secondary education and provides them with higher earnings; however, the higher earnings may simply reflect differences in the cost of living. There is also the possibility that Aboriginals who live in the Territories have located there specifically for employment, causing some endogeneity between the number of weeks worked and the Territories dummy variable in Model (3).

Examining the impact of age on all three dependent variables, it is either statistically insignificant or small in magnitude for any of the education or employment regressions. However, earnings increase with age for the 25 to 41 sample, but decrease with age for the 41 to 59 sample.

Lastly, survey respondents who have a long-term mental health condition or who have a parent that was involved in the residential school system are less likely to be employed full-time.

While having a long term mental health condition does not have any effect on a respondent's likelihood of getting a university degree, individuals who reported to have one did show a 24 to 28 percent lower likelihood – depending on their age – of being employed between 49 to 52 weeks. From these results, there is evidence to suggest that having a mental health condition does reduce a person's ability to be employed – particularly in yearlong occupations. With regards to having a parent in the residential schooling system, individuals below the age of 41 are six percent more likely to have not worked in 2005 and almost 10 percent less likely to have been employed between 49 to 52 weeks. These results may be caused by the fact individuals involved in the residential schooling system did not work or had difficulty maintaining a job, causing their children to have similar employment patterns. Individuals above the age of 41 are not affected by parental involvement in the residential school system.

Refined Model Results

After adding additional variables to Models (1) through (3), the results of Models (4), (5) and (6) are shown in Tables 7 through 11:

Table 7: Refined Earnings and Log Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
speak	-7,786	-8,167	-0.26	-0.17
language	[-5.38]**	[-4.09]**	[-3.85]**	[-1.53]
read/write	2,271	3,233	-0.11	0.03
language	[1.69]	[1.68]	[-1.08]	[0.20]
traditional	-521	-415	-0.07	0.01
activity	[-0.59]	[-0.37]	[-1.49]	[0.28]
speak at	-5,682	-5,153	-0.21	-0.17
home	[-4.05]**	[-2.24]**	[-2.17]**	[-1.20]
speak	-5,222	-5,923	-0.19	-0.28
elsewhere	[-3.34]**	[-2.78]**	[-1.65]	[-1.55]
speak at	10,086	9,701	0.78	0.42
work	[6.53]**	[3.67]**	[6.76]**	[2.70]**
R^2	0.1099	0.0825	0.0914	0.0578
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^\beta - 1$. Estimates in columns 3 and 4 are rounded to two decimal places.

Table 8: Refined Educational Attainment Results For Individuals 24-41 Years of Age

	Level 1	*Level 2*	*Level 3*	*Level 4*	*Level 5*	*Level 6*	*Level 7*
speak	0.001	0.069	0.027	0.006	-0.037	-0.012	-0.054
language	[2.30]**	[3.40]**	[3.89]**	[4.99]**	[-3.25]**	[-3.59]**	[-3.88]**
read/write	-0.001	-0.061	-0.03	-0.010	0.027	0.012	0.063
language	[-4.11]**	[-3.62]**	[-3.12]**	[-2.61]**	[4.14]**	[3.38]**	[3.07]**
traditional	0.000	-0.04	-0.019	-0.006	0.019	0.008	0.038
activity	[-2.38]**	[-4.15]**	[-3.94]**	[-3.68]**	[4.31]**	[4.16]**	[3.83]**
aboriginal teachers	0.000	0.050	0.020	0.004	-0.027	-0.009	-0.04
	[2.09]**	[3.31]**	[3.68]**	[3.95]**	[-3.17]**	[-3.57]**	[-3.74]**
taught in language	0.000	0.021	0.009	0.003	-0.011	-0.004	0.019
	[1.62]	[2.07]**	[2.00]**	[2.39]**	[-2.13]**	[-2.12]**	[2.12]**
aboriginal history	-0.001	-0.053	-0.024	-0.007	0.027	0.010	0.047
	[-4.25]**	[-5.51]**	[-5.69]**	[-5.40]**	[5.57]**	[5.52]**	[5.46]**
speak at home	0.001	0.088	0.032	0.006	-0.048	-0.015	0.065
	[1.74]	[3.77]**	[4.52]**	[6.18]**	[-3.56]**	[-4.14]**	[4.52]**
speak elsewhere	0.001	0.041	0.017	0.004	-0.022	-0.007	0.033
	[3.04]**	[2.02]**	[2.24]**	[2.70]**	[-1.97]*	[-2.04]**	[2.20]**
speak at work	-0.001	-0.069	-0.036	-0.013	0.029	0.014	0.077
	[-4.26]**	[-4.61]**	[-3.84]**	[-3.10]**	[6.14]**	[4.25]**	[3.69]**
Pseudo R^2	0.0227						
Observations	7,886						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 9: Refined Educational Attainment Results For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
speak language	0.002	0.056	0.014	0.002	-0.031	-0.007	-0.036
	[2.05]**	[2.44]**	[2.72]**	[4.12]**	[-2.36]**	[-2.64]**	[-2.65]**
read/write language	-0.002	-0.099	-0.037	-0.011	0.043	0.013	0.092
	[-3.24]**	[-6.03]**	[-4.80]**	[-3.79]**	[7.76]**	[4.70]**	[4.71]**
traditional activity	-0.002	-0.060	-0.019	-0.004	0.030	0.008	0.047
	[-4.09]**	[-5.64]**	[-5.12]**	[-4.10]**	[5.62]**	[5.13]**	[5.30]**
aboriginal teachers	0.002	0.061	0.015	0.001	-0.034	-0.007	0.038
	[1.77]	[2.55]**	[3.24]**	[2.39]**	[-2.40]**	[-2.63]**	[2.98]**
taught in language	0.002	0.076	0.022	0.004	-0.040	-0.009	0.055
	[2.36]**	[4.40]**	[4.34]**	[3.84]**	[-4.27]**	[-3.92]**	[4.41]**
aboriginal history	-0.002	-0.067	-0.021	-0.005	0.033	0.009	0.053
	[-3.81]**	[-6.13]**	[-5.32]**	[-4.44]**	[6.25]**	[5.48]**	[5.53]**
speak at home	0.002	0.062	0.015	0.002	-0.034	-0.007	-0.039
	[1.69]	[2.30]**	[2.68]**	[4.63]**	[-2.18]**	[-2.28]**	[-2.56]**
speak elsewhere	0.001	0.039	0.010	0.001	-0.021	-0.005	-0.026
	[1.02]	[1.49]	[1.61]	[1.57]	[-1.43]	[-1.66]	[-1.61]
speak at work	-0.002	-0.082	-0.030	-0.008	0.036	0.011	0.074
	[-3.14]**	[-3.43]**	[-2.82]**	[-2.10]**	[4.44]**	[3.08]**	[2.74]**
Pseudo R^2	0.0183						
Observations	7,457						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 10: Refined Employment Model For Individuals 24-41 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
speak language	0.078	0.020	0.020	0.007	0.000	-0.125
	[4.08]**	[4.46]**	[4.93]**	[5.64]**	[0.000]	[-4.53]**
read/write language	-0.011	-0.003	-0.003	-0.001	-0.001	0.019
	[-0.75]	[-0.70]	[-0.64]	[-0.50]	[-1.10]	[0.72]
traditional activity	0.022	0.006	0.006	0.002	0.001	-0.037
	[2.14]**	[2.16]**	[2.07]**	[2.26]**	[3.25]**	[-2.15]**
speak at home	0.046	0.012	0.012	0.005	0.001	-0.075
	[2.25]**	[2.39]**	[2.47]**	[3.13]**	[1.90]	[-2.38]**
speak elsewhere	0.075	0.019	0.019	0.006	0.000	-0.118
	[3.35]**	[3.74]**	[4.12]**	[4.63]**	[-0.16]**	[-3.69]**
speak at work	-0.098	-0.034	-0.042	-0.021	-0.018	0.213
	[-8.55]**	[-6.59]**	[-6.12]**	[-5.14]**	[-4.08]**	[7.01]**
Pseudo R^2	0.0376					
Observations	7,886					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Table 11: Refined Employment Model For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
speak language	0.078	0.008	0.011	0.006	0.004	-0.107
	[3.04]**	[3.50]**	[3.65]**	[3.72]**	[4.56]**	[-3.26]**
read/write language	0.003	0.000	0.000	0.000	0.000	-0.004
	[0.11]	[0.11]	[0.12]	[0.12]	[0.12]	[-0.11]
traditional activity	0.027	0.003	0.004	0.003	0.002	-0.039
	[2.16]**	[2.26]**	[2.13]**	[2.63]**	[1.94]	[-2.19]**
speak at home	0.070	0.007	0.009	0.005	0.004	-0.096
	[2.34]**	[2.68]**	[2.60]**	[2.77]**	[4.88]**	[-2.52]**
speak elsewhere	0.049	0.005	0.007	0.004	0.003	-0.069
	[1.58]	[1.71]	[1.79]	[1.84]	[2.29]**	[-1.68]
speak at work	-0.097	-0.013	-0.020	-0.014	-0.019	0.162
	[-5.02]**	[-4.28]**	[-4.00]**	[-3.66]**	[-3.16]**	[4.44]**
Pseudo R^2	0.0373					
Observations	7,457					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

While the magnitudes of certain coefficients fluctuate, adding additional variables to Models (1), (2) and (3) does not change any of the major conclusions from the initial analysis. In particular, the central conclusion of Models (1) through (3) remains the same: Aboriginals who know how to speak an indigenous language earn less than their peers and are less likely to be employed full-time or have completed a university degree. The initial models do not give any insight into what effect speaking an Aboriginal language in various settings has on a respondent's earnings, educational attainment or number weeks worked in a year. Models (4) through (6) provide some answers to those questions.

Most notably, survey respondents who know an Aboriginal language and use it at home have a 7.5 to 10 percent lower likelihood of being employed between 49 to 52 weeks. This result indicates that Aboriginals who speak either French or English at home, as opposed to an indigenous language, have a greater probability of being employed full-time. This finding is similar to the results found by Chiswick and Miller (2003), in that individuals who speak either

French or English at home have a higher probability of being employed.[16] For educational outcomes, the results for individuals who speak an Aboriginal language at home are inconsistent: survey respondents 42 to 59 years of age have a four percent lower likelihood of completing a university degree, while individuals 24 to 41 have a seven percent higher likelihood of completing a university degree. This result may indicate that any negative effects associated with speaking an indigenous language at home – such as compromising an individual's ability to speak French or English – may be subsiding for younger cohorts of Aboriginals.

More interesting are the results for individuals who know how to speak an Aboriginal language and use this language at their place of work. Survey respondents who speak an Aboriginal language and use it at work have a 16 to 21 percent higher likelihood of being employed full-time and earn nearly $10,000 more than their peers. Additionally, individuals who use an Aboriginal language at work are over seven percent more likely to have completed a university degree than others. These results are surprising, as they seem to oppose the general finding that knowing how to speak an indigenous language is negatively correlated to a person's earnings, educational level or ability to have a full-time job. Since the APS data does not contain information on where these respondents are employed, it is difficult to ascertain what professions – or what other attributes from these professions – cause Aboriginals who speak an indigenous language at work fare better than their peers for all three dependent variables. It is likely that these individuals work in professions with other Aboriginal persons, and are able to use their ability to communicate with their peers to sustain full-time employment.

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[16] Individuals who use an indigenous language at home are also shown to earn $5,000 to $5,500 less than their peers. I cannot draw any major conclusions from this result since I do not know how many hours each survey respondent worked in 2005 and therefore do not know if earnings differentials are driven by differences in hours worked.

The results of Model (5) are shown in Tables 8 and 9, and display the impact of having a greater Aboriginal influence in the classroom on a respondent's educational attainment. According to the results, individuals who were taught in elementary or high school in an Aboriginal language or about Aboriginal history have a higher likelihood of completing a university degree. These results indicate that there may be some external benefits for Aboriginals to learn about their ancestry, lending credence to the cultural continuity argument proposed by Chandler and Lalonde (1998).

Instrumental Variable Estimates of Speaking an Indigenous Language

In all of the models estimated, the most consistent, statistically significant relationship is established between a respondent's ability to speak an Aboriginal language and their earnings, education level and number of weeks employed in 2005. Regardless of the specification used, a negative relationship is found between a respondents' ability to speak an Aboriginal language and the three dependent variables examined in Models (1) through (6). One issue with this conclusion is that I cannot be entirely sure that these results are a direct result of the effect of a person's ability to speak an indigenous language, or due to certain unobserved factors – such as a respondents' innate ability, influence of friends or family educational background – which also affect their ability to speak an Aboriginal language. To determine the validity of the results acquired for language in Models (1) through (6), I require a variable that is positively correlated with the ability to speak an Aboriginal language and is not directly correlated with unobserved factors in the models.

Among the possible instruments available in the APS, I determine the availability of five possible services – health, justice/police, counselling, education or financial services – as the

most suitable instrumental variables for the ability to speak an indigenous language. These variables meet the criteria for suitable instrumental variables; the availability of the services is positively correlated with the probability that the respondent will learn how to speak an Aboriginal language, but the availability of these services is not directly related to a respondent's unobservable traits, such as their innate ability. With five possible instrumental variables available for one independent variable, a two-stage least squares method is used to create an instrumental variable that can be used in place of ability to speak an Aboriginal language all models tested.[17]

In order to run the models using an instrumental variable for speaking an Aboriginal language, I convert the educational attainment variable into a binary variable measuring if a person has completed high school or not, and the weeks worked variable into whether a person worked for 27 weeks or longer in 2005. Though altering these dependent variables does not allow for a direct comparison of results to Models (1) through (6), I am still able to analyze the impact of cultural and language variables on a respondent's educational and employment attainment.

Instrumental Variable Results

The results for using an instrumental variable in place of speaking an Aboriginal language are found in Tables 12 through 15:

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[17] An F-test of whether all five service variables equals zero yields a value of 25.16, exceeding the threshold of 15.09 determined by Stock et. al (2002) for determining a weak instrumental variable using five variables. Depending on the specification tested, the partial F-statistic for usage of language at work ranges from 8.91 to 53.59. The partial F-statistic for usage of language at home ranges in value from 5.02 to 29.28.

Table 12: Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
speak language	-31,720	-14,805	-0.68	-0.42
	[-6.79]**	[-2.34]**	[-4.28]**	[-1.68]
read/write language	13,045	4,301	0.34	0.09
	[4.50]	[1.27]	[1.65]	[0.36]
traditional language	-266	-518	-0.07	0.01
	[-0.30]	[-0.46]	[-1.42]	[0.16]
R^2	0.0678	0.0785	0.0585	0.0515
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services.

Table 13: Refined Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
speak language	-31,018	-18,442	-0.87	-0.61
	[-3.75]**	[-1.44]	[-3.84]**	[-1.16]
read/write language	7,927	3,892	0.37	0.14
	[3.37]**	[1.50]	[1.66]	[0.63]
traditional activity	-652	-73	-0.07	0.02
	[-0.97]	[-0.09]	[-1.40]	[0.34]
speak at home	1,563	-960	0.51	0.14
	[0.48]	[-0.19]	[1.64]	[0.41]
speak elsewhere	3,078	-1,332	0.24	-0.10
	[1.10]	[-0.26]	[0.94]	[-0.27]
speak at work	13,651	15,476	0.73	0.49
	[11.16]**	[8.44]**	[6.35]**	[2.92]**
R^2	0.0712	0.0793	0.0420	0.0440
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%.Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services.

Table 14: Revised Education Models

	Education Extended		Education	
	24-41	42-59	24-41	42-59
speak language	-0.40	-0.44	-0.28	-0.26
	[-2.42]**	[-1.80]	[-3.58]**	[-3.00]**
read/write language	0.13	0.15	0.11	0.15
	[2.55]**	[3.65]**	[2.15]**	[3.23]**
traditional activity	0.03	0.06	0.03	0.06
	[2.48]**	[3.90]**	[2.62]**	[3.95]**
aboriginal teachers	-0.02	-0.05		
	[-0.93]	[-1.54]		
taught in language	-0.04	-0.07		
	[-3.49]**	[-4.49]**		
aboriginal history	0.06	0.05		
	[4.78]**	[3.78]**		
speak at home	-0.01	0.10		
	[-0.09]	[1.00]		
speak elsewhere	0.03	0.03		
	[0.63]	[0.35]		
speak at work	0.09	0.06		
	[3.42]**	[1.48]		
Pseudo R^2	0.0339	0.0220	0.0261	0.0107
Observations	7,886	7,457	7,886	7,457

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Probit regressions, rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services. Both the Education and Education Extended Models correspond to the Models tested in Tables 3,4,8 and 9, but with a binary dependent variable, high school.

Table 15: Revised Employment Models

	Employment Extended		Employment	
	24-41	42-59	24-41	42-59
speak language	-0.55	-0.55	-0.32	-0.28
	[-2.70]**	[-2.10]**	[-3.38]**	[-3.12]**
read/write language	0.08	0.07	0.07	0.06
	[1.37]	[1.32]	[1.23]	[1.11]
traditional activity	-0.03	-0.03	-0.04	-0.04
	[-1.96]*	[-1.96]*	[-2.13]**	[-2.34]**
speak at home	0.12	0.07		
	[1.31]	[0.68]		
speak elsewhere	0.02	0.09		
	[0.25]	[0.79]		
speak at work	0.21	0.18		
	[5.90]**	[3.77]**		
Pseudo R^2	0.0756	0.0847	0.0504	0.0527
Observations	7,886	7,457	7,886	7,457

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Probit regressions, rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services. Both the Employment and Employment Extended Models correspond to the Models tested in Tables 5,6,10 and 11, but with a binary dependent variable, weeks worked. This variable takes a value of 1 if an individual has worked 27 weeks or more, and zero if a person has not.

Overall, using instrumental variables in place of a person's ability to speak an Aboriginal language, the majority of results from Models (1) through (6) remain the same. In particular, the central conclusion derived regarding knowledge of an indigenous language remains unchanged: individuals who are able to speak an Aboriginal language have lower earnings, educational attainment and are employed for a fewer number of weeks than their peers. Similarly, individuals who can read or write an indigenous language have a greater likelihood of completing high school. The one result that does change slightly is the effect of using an Aboriginal language at home. Using instrumental variables in place of speaking Aboriginal language, the resulting coefficients show that speaking an Aboriginal language at home has an insignificant relationship with a respondent's earnings, education level or number of weeks employed. These results differ greatly from the Refined Model section. A possible explanation for this aberration in the data may be since the educational groups in the last set of models are only separated into two groups, unlike six in the previous models.

V.   Conclusion

The primary purpose of this paper is to determine the effect of cultural ancestry on earnings, educational and employment outcomes for Aboriginals in Canada today. While prior economic literature has shown a significant relationship between assimilating into North American culture and acquiring economic success, research in other fields has shown a strong connection between maintenance of cultural heritage and social outcomes. I use information from the 2006 Aboriginal Peoples Survey to determine how various measures of culture maintenance relates to earnings, educational attainment and weeks employed for Aboriginals in Canada. I find some evidence supporting the assimilation hypothesis, as individuals who do not

know how to speak an indigenous language have a higher likelihood of completing a university degree, gaining full-time employment or have higher earnings. Building off the same idea as Chiswick and Miller (2003), I go further to show that individuals who know and use an Aboriginal language at home, as opposed to English or French, are less likely to be employed for 49 to 52 weeks – giving further evidence to support the assimilation hypothesis. Opposing this idea, however, survey respondents who read or write an Aboriginal language or take part in traditional activities show a higher likelihood of completing a university degree. Additionally, individuals who use an Aboriginal language at work demonstrate better employment and educational outcomes than their peers. The models also confirm that Aboriginals who have a parent who was involved in the residential schooling system, or who have a self reported long-term mental health condition, are less likely to have a full-time job. I examine the robustness of the results by using five language services as instrumental variables for a person's ability to speak an indigenous language. Using these instrumental variables, I find the majority of the conclusions do not change; in particular, the ability to speak an Aboriginal language has a negative relationship with earnings as well as educational attainment and employment duration. While the findings of this paper do confirm some of the results previously found in the economics literature, they also provide fodder for future work. In particular, there remains a lot potential for research into how best to preserve indigenous languages and cultures in Canada while not being detrimental to employment prospects for Aboriginals Canadians.

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Appendix A: Variable Specification

Initial Model Variable Specification

$employment_i$ = Employment level of respondent (corresponding to number of weeks worked)

$schooling_i$ = Education level of the respondent

$totalinc_i$ = wages and salaries, net income from unincorporated non
$-$ farm business and/or professional practice and net farm self $-$ employment income

age_i = An individual's age

$gender_i$ = Sex of respondent

$region_i$ = Region of Canada individual lives in (Atlantic, Quebec, Ontario, Prairies or British Columbia)

$urban_i$ = Whether a person lived in a city or not

$speak_i$ = If a respondent has the ability to speak an Aboriginal language

$readwrite_i$ = If a person can read or write an Aboriginal language

$tradactivity_i$ = Measures if a person has partaken in one of the four traditional activities listed

$langservices_i$ = Whether or not a person has one or more services available to them in an Aboriginal language

$pres_i$ = If a person's mother or father was part of the residential school system

mh_i = If a person has a self-reported long term mental-health condition

ε_i = error unaccounted for in model

Refined Model Variable Specification

$abteach_i$ = if a respondent was taught by an Aboriginal in their last year of school

$history_i$ = if a student was taught by a teacher in an Aboriginal language

$abhis_i$ = if an individual was taught Aboriginal history while in their last year of school

$langhome_i$ = uses an Aboriginal language at their home

$langelse_i$ = uses an Aboriginal language elsewhere

$langwork_i$ = uses an Aboriginal language at work

Appendix B: Initial Model Results

Table 2: Earnings and Log Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
age	876	-349	0.04	-0.01
	[10.98]**	[-3.13]**	[8.89]**	[-1.92]
gender	13,196	16,196	0.64	0.64
	[14.28]**	[13.93]**	[12.18]**	[10.34]**
Atlantic	-8,976	-18,365	-0.33	-0.42
	[-5.91]**	[-8.01]**	[-4.78]**	[-6.07]**
Quebec	-7,182	-12,388	-0.20	-0.25
	[-4.50]**	[-4.97]**	[-2.58]**	[-3.14]**
Ontario	-3,093	-6,568	-0.10	-0.21
	[-1.84]	[-2.67]**	[-1.42]	[-2.46]**
BC	-5,437	-9,349	-0.18	-0.20
	[-3.49]**	[-3.75]**	[-2.51]**	[-2.46]**
Prairies	-2,518	-7,828	-0.16	-0.22
	[-1.83]	[-3.54]**	[-2.14]**	[-3.14]**
urban	-1,618	267	0.02	-0.02
	[-1.49]	[0.21]	[0.42]	[-0.31]
speak	-10,627	-11,468	-0.30	-0.29
language	[-8.85]**	[-7.07]**	[-4.65]**	[-3.45]**
read or write	1,695	2,703	-0.11	-0.01
language	[1.23]	[1.47]	[-1.16]	[-0.08]
traditional	-515	-563	-0.07	0.010
activity	[-0.58]	[-0.50]	[-1.47]	[0.15]
mental health	-13,099	-15,538	-0.11	-0.27
condition	[-2.93]**	[-4.19]**	[-0.71]	[-1.49]
residential	-3,636	1,187	-0.06	0.12
school	[-2.93]**	[0.55]**	[-0.88]	[1.43]
R^2	0.1039	0.0791	0.0835	0.0532
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places.

Table 3: Educational Attainment For Individuals 24-41 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
age	0.000	-0.001	0.000	0.000	0.000	0.000	0.001
	[-0.84]	[-0.88]	[-0.88]	[-0.88]	[0.88]	[0.88]	[0.88]
gender	0.001	0.057	0.024	0.007	-0.028	-0.010	-0.050
	[2.69]**	[5.77]**	[6.00]**	[5.64]**	[-5.56]**	[-5.64]**	[-6.00]**
Atlantic	-0.001	-0.118	-0.068	-0.029	0.035	0.024	0.158
	[-2.77]**	[-11.07]**	[-8.19]**	[-6.20]**	[10.23]**	[8.52]**	[7.53]**
Quebec	-0.001	-0.127	-0.073	-0.032	0.036	0.026	0.171
	[-2.13]**	[-11.15]**	[-7.57]**	[-6.10]**	[9.37]**	[9.14]**	[7.19]**
Ontario	-0.001	-0.1	-0.055	-0.022	0.0346	0.02	0.123
	[-2.59]**	[-8.52]**	[-6.63]**	[-5.17]**	[11.26]**	[7.10]**	[6.18]**
Prairies	-0.001	-0.073	-0.035	-0.012	0.032	0.014	0.074
	[-2.91]**	[-5.81]**	[-5.17]**	[-4.48]**	[6.28]**	[5.24]**	[5.08]**
BC	-0.001	-0.073	-0.039	-0.015	0.028	0.015	0.085
	[-3.31]**	[-5.53]**	[-4.50]**	[-3.66]**	[7.83]**	[4.96]**	[4.26]**
urban	-0.001	-0.042	-0.019	-0.006	0.020	0.008	0.039
	[-4.37]**	[-4.44]**	[-4.26]**	[-4.13]**	[4.49]**	[4.32]**	[4.23]**
speak language	0.002	0.118	0.041	0.007	-0.063	-0.019	-0.086
	[2.37]**	[6.24]**	[7.57]**	[6.42]**	[-5.78]**	[-6.40]**	[-7.57]**
read or write language	-0.001	-0.052	-0.025	-0.008	0.023	0.01	0.053
	[-3.53]**	[-3.13]**	[-2.77]**	[-2.28]**	[3.56]**	[2.94]**	[2.71]**
traditional activity	-0.001	-0.042	-0.019	-0.006	0.019	0.008	0.04
	[-4.45]**	[-4.38]**	[-3.98]**	[-3.62]**	[4.50]**	[4.20]**	[3.97]**
mental health condition	0.002	0.086	0.028	0.004	-0.048	-0.014	-0.058
	[1.20]	[1.41]	[2.01]	[2.77]	[-1.34]	[-1.66]	[-1.88]
residential school	0.000	0.020	0.008	0.002	-0.010	-0.003	-0.017
	[0.88]	[0.98]	[1.02]	[1.13]	[-0.93]	[-0.85]	[-1.05]
Pseudo R^2	0.0168						
Observations	7,886						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 4: Educational Attainment For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
age	0.000	0.002	0.001	0.000	-0.001	0.000	-0.002
	[1.73]	[1.81]	[3.13]**	[1.83]	[-1.75]	[-1.83]	[-2.42]**
gender	0.001	0.024	0.007	0.001	-0.012	-0.003	-0.018
	[1.71]	[2.24]**	[2.26]**	[1.68]	[-2.15]**	[-2.19]**	[-2.28]**
Atlantic	-0.003	-0.078	-0.027	-0.007	0.035	0.010	0.069
	[-2.83]**	[-4.29]**	[-3.58]**	[-2.76]**	[5.03]**	[3.64]**	[3.56]**
Quebec	-0.005	-0.125	-0.048	-0.015	0.05	0.017	0.125
	[-3.64]**	[-7.09]**	[-5.60]**	[-4.22]**	[10.83]**	[5.88]**	[5.26]**
Ontario	-0.003	-0.086	-0.03	-0.08	0.038	0.012	0.078
	[-2.75]**	[-4.88]**	[-3.98]**	[-3.06]**	[5.81]**	[4.40]**	[4.04]**
Prairies	-0.003	-0.081	-0.027	-0.007	0.038	0.011	0.07
	[-2.63]**	[-4.70]**	[-4.07]**	[-3.36]**	[5.26]**	[4.31]**	[4.11]**
BC	-0.003	-0.093	-0.035	-0.010	0.039	0.013	0.09
	[-2.70]**	[-5.52]**	[-4.47]**	[-3.34]**	[7.29]**	[4.77]**	[4.37]**
urban	-0.001	-0.019	-0.006	-0.001	0.01	0.002	0.014
	[-1.90]	[-1.76]	[-1.80]	[-1.40]	[1.83]	[1.42]	[1.65]
speak	0.005	0.081	0.02	0.002	-0.045	-0.010	-0.052
language	[2.99]**	[4.46]**	[5.54]**	[3.75]**	[-4.20]**	[-4.75]**	[-5.08]**
read or write	-0.004	-0.1	-0.037	-0.011	0.042	0.014	0.096
language	[-3.44]**	[-6.77]**	[-5.22]**	[-4.03]**	[8.80]**	[5.53]**	[5.22]**
traditional	-0.003	-0.059	-0.019	-0.004	0.029	0.008	0.048
activity	[-3.40]**	[-5.67]**	[-5.19]**	[-4.09]**	[5.65]**	[5.22]**	[5.33]**
mental health	-0.001	-0.029	-0.009	-0.002	0.014	0.004	0.024
condition	[-0.61]	[-0.71]	[-0.62]	[-0.51]	[0.76]	[0.72]	[0.65]
residential	-0.001	-0.013	-0.004	-0.001	0.007	0.002	0.010
school	[-1.31]	[-0.77]	[-0.75]	[-0.83]	[0.84]	[0.91]	[0.73]
Pseudo R^2	0.0084						
Observations	7,457						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 5: Number of Weeks Employed For Individuals 24-41 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
educ	-0.035	-0.010	-0.011	-0.004	-0.002	0.061
	[-12.06]**	[-10.08]**	[-11.40]**	[-8.50]**	[-5.39]**	[12.80]**
age	-0.003	-0.001	-0.001	0.000	0.000	0.005
	[-3.53]**	[-4.00]**	[-3.75]**	[-3.16]**	[-2.58]**	[3.33]**
gender	-0.081	-0.023	-0.025	-0.011	-0.005	0.145
	[-9.29]**	[-7.95]**	[-8.37]**	[-7.76]**	[-4.97]**	[9.43]**
Atlantic	0.080	0.019	0.019	0.006	-0.001	-0.123
	[4.02]**	[4.51]**	[5.26]**	[6.42]**	[-0.73]	[-4.58]**
Quebec	0.044	0.011	0.012	0.004	0.000	-0.071
	[2.23]**	[2.33]**	[2.67]**	[2.83]**	[0.81]	[-2.38]**
Ontario	0.013	0.003	0.004	0.001	0.000	-0.021
	[0.74]	[0.65]	[0.82]	[0.54]	[0.99]	[-0.72]
BC	0.047	0.012	0.012	0.004	0.000	-0.075
	[2.36]**	[2.61]**	[2.79]**	[3.15]**	[0.20]	[-2.57]**
Prairies	0.006	0.002	0.002	0.001	0.000	-0.001
	[0.41]	[0.50]	[0.47]	[0.59]	[0.41]	[-0.04]
urban	0.004	0.001	0.001	0.000	0.000	-0.007
	[0.41]	[0.37]	[0.34]	[0.39]	[0.40]	[-0.41]
speak language	0.107	0.025	0.025	0.008	-0.001	-0.164
	[6.28]**	[6.66]**	[7.91]**	[8.06]**	[-0.97]	[-7.23]**
read or write language	-0.006	-0.002	-0.002	-0.001	0.000	0.011
	[-0.41]	[-0.48]	[-0.44]	[-0.53]	[-0.39]	[0.42]
traditional activity	0.022	0.006	0.006	0.002	0.001	-0.038
	[2.13]**	[2.19]**	[2.10]**	[2.28]**	[3.27]**	[-2.21]**
mental health condition	0.252	0.036	0.022	-0.003	-0.027	-0.281
	[3.09]**	[8.82]**	[4.40]**	[-0.41]	[-1.89]	[-4.79]**
residential school	0.064	0.015	0.015	0.005	-0.001	-0.098
	[3.26]**	[3.63]**	[3.63]**	[5.51]**	[-0.60]	[-3.66]**
Pseudo R^2	0.0345					
Observations	7,886					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Table 6: Number of Weeks Employed For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
educ	-0.044	-0.005	-0.007	-0.004	-0.004	0.064
	[-12.52]**	[-9.36]**	[-10.09]**	[-8.44]**	[-7.51]**	[12.83]**
age	0.007	0.001	0.001	0.001	0.001	-0.01
	[5.95]**	[7.07]**	[5.13]**	[8.16]**	[7.83]**	[-5.89]**
gender	-0.066	-0.007	-0.011	-0.007	-0.007	0.097
	[-5.84]**	[-5.04]**	[-5.86]**	[-5.70]**	[-5.36]**	[5.87]**
Atlantic	0.173	0.014	0.018	0.009	0.002	-0.216
	[6.46]**	[7.37]**	[8.92]**	[9.28]**	[1.01]	[-7.55]**
Quebec	0.115	0.01	0.014	0.008	0.004	-0.152
	[4.17]**	[4.71]**	[5.49]**	[6.53]**	[3.83]**	[-4.70]**
Ontario	0.073	0.007	0.01	0.006	0.004	-0.099
	[2.92]**	[3.21]**	[3.54]**	[3.97]**	[5.24]**	[-3.12]**
BC	0.091	0.008	0.011	0.006	0.004	-0.121
	[3.38]**	[3.78]**	[4.22]**	[4.70]**	[5.14]**	[-3.75]**
Prairies	0.035	0.004	0.005	0.003	0.003	-0.05
	[1.70]	[1.93]	[1.73]	[1.76]	[2.20]**	[-1.75]
urban	0.007	0.001	0.001	0.001	0.001	-0.01
	[0.56]	[0.75]	[0.52]	[0.85]	[0.87]	[-0.55]
speak language	0.114	0.01	0.014	0.008	0.005	-0.15
	[5.56]**	[5.56]**	[6.40]**	[7.10]**	[5.40]**	[-6.06]**
read or write language	0.006	0.001	0.001	0.001	0.001	-0.008
	[0.24]	[0.37]	[0.26]	[0.42]	[0.45]	[-0.22]
traditional activity	0.029	0.003	0.004	0.003	0.003	-0.041
	[2.31]**	[2.28]**	[2.15]**	[2.67]**	[2.96]**	[-2.31]**
mental health conditional	0.216	0.014	0.016	0.006	-0.008	-0.243
	[2.81]**	[6.42]**	[12.09]**	[2.59]**	[-0.81]	[-3.62]**
residential school	0.033	0.003	0.005	0.003	0.002	-0.046
	[1.40]	[1.33]	[1.64]	[1.74]	[1.75]	[-1.46]
Pseudo R^2	0.0355					
Observations	7,457					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Appendix C: Refined Model Results

Table 7: Refined Earnings and Log Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
age	863	-346	0.03	-0.01
	[10.81]**	[-3.10]**	[8.75]**	[-1.95]
gender	13,154	16,092	0.64	0.64
	[14.26]**	[13.83]**	[12.24]**	[10.37]**
Atlantic	-9,677	-18,333	-0.33	-0.43
	[-6.22]**	[-7.81]**	[-4.57]**	[-6.22]**
Quebec	-7,956	-12,393	-0.20	-0.26
	[-4.91]**	[-4.89]**	[-2.52]**	[-3.33]**
Ontario	-3,844	-6,566	-0.10	-0.23
	[-2.23]**	[-2.62]**	[-1.38]	[-2.67]**
BC	-6,024	-9,264	-0.18	-0.21
	[-3.83]**	[-3.63]**	[-2.36]**	[-2.64]**
Prairies	-3,022	-7,742	-0.15	-0.23
	[-2.18]**	[-3.46]**	[-2.25]**	[-3.37]**
urban	-1,652	372	0.02	-0.01
	[-1.52]	[0.28]	[0.49]	[-0.28]
speak language	-7,786	-8,167	-0.26	-0.17
	[-5.38]**	[-4.09]**	[-3.85]**	[-1.53]
read or write language	2,271	3,233	-0.11	0.03
	[1.69]	[1.68]	[-1.08]	[0.20]
traditional activity	-521	-415	-0.07	0.01
	[-0.59]	[-0.37]	[-1.49]	[0.28]
mental health conditional	-13,296	-15,499	-0.11	-0.27
	[-5.63]**	[-4.19]**	[-0.76]	[-1.49]
residential school	-3,272	1,287	-0.05	0.12
	[-2.64]**	[0.60]	[-0.75]	[1.48]
speak at home	-5,682	-5,153	-0.21	-0.17
	[-4.05]**	[-2.24]**	[-2.17]**	[-1.20]
speak elsewhere	-5,222	-5,923	-0.19	-0.28
	[-3.34]**	[-2.78]**	[-1.65]	[-1.55]
speak at work	10,086	9,701	0.78	0.42
	[6.53]**	[3.67]**	[6.76]**	[2.70]**
R^2	0.1099	0.0825	0.0914	0.0578
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places.

Table 8: Refined Educational Attainment Results For Individuals 24-41 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
age	0.000	-0.001	0.000	0.000	0.000	0.000	0.001
	[-0.98]	[-1.13]	[-1.04]	[-1.03]	[1.04]	[1.04]	[1.04]
gender	0.001	0.059	0.0253	0.007	-0.03	-0.011	-0.051
	[3.86]**	[5.94]**	[6.19]**	[6.08]**	[-5.70]**	[-5.97]**	[-6.24]**
Atlantic	-0.001	-0.108	-0.062	-0.025	0.037	0.022	0.137
	[-3.09]**	[-9.35]**	[-7.16]**	[-5.37]**	[11.56]**	[7.39]**	[6.59]**
Quebec	-0.001	-0.118	-0.069	-0.028	0.039	0.024	0.153
	[-2.80]**	[-9.73]**	[-7.48]**	[-5.40]**	[11.59]**	[7.98]**	[6.51]**
Ontario	-0.001	-0.089	-0.048	-0.018	0.034	0.018	0.104
	[-3.52]**	[-7.00]**	[-5.59]**	[-4.34]**	[9.49]**	[6.00]**	[5.29]**
Prairies	-0.001	-0.064	-0.031	-0.010	0.030	0.012	0.064
	[-3.95]**	[-4.85]**	[-4.43]**	[-3.81]**	[5.28]**	[4.34]**	[4.39]**
BC	-0.001	-0.064	-0.034	-0.012	0.027	0.013	0.071
	[-4.47]**	[-4.53]**	[-3.82]**	[-3.03]**	[5.98]**	[4.08]**	[3.62]**
urban	-0.001	-0.043	-0.02	-0.006	0.021	0.008	0.04
	[-5.32]**	[-4.53]**	[-4.41]**	[-4.13]**	[4.56]**	[4.26]**	[4.39]**
speak language	0.001	0.069	0.027	0.006	-0.037	-0.012	-0.054
	[2.30]**	[3.40]**	[3.89]**	[4.99]**	[-3.25]**	[-3.59]**	[-3.88]**
read or write language	-0.001	-0.061	-0.03	-0.01	0.027	0.012	0.063
	[-4.11]**	[-3.62]**	[-3.12]**	[-2.61]**	[4.14]**	[3.38]**	[3.07]**
traditional activity	0.000	-0.040	-0.019	-0.006	0.019	0.008	0.038
	[-2.38]**	[-4.15]**	[-3.94]**	[-3.68]**	[4.31]**	[4.16]**	[3.83]**
mental health condition	0.002	0.099	0.031	0.003	-0.056	-0.015	-0.063
	[1.30]	[1.57]	[2.39]	[1.18]	[-1.48]	[-1.79]	[-2.17]**
residential school	0.000	0.013	0.006	0.001	-0.007	-0.002	-0.011
	[0.62]	[0.63]	[0.72]	[0.51]	[-0.65]	[-0.55]	[-0.66]
aboriginal teachers	0.000	0.050	0.020	0.004	-0.027	-0.009	-0.04
	[2.09]**	[3.31]**	[3.68]**	[3.95]**	[-3.17]**	[-3.57]**	[-3.74]**
taught in language	0.000	0.021	0.009	0.003	-0.011	-0.004	0.019
	[1.62]	[2.07]**	[2.00]**	[2.39]**	[-2.13]**	[-2.12]**	[2.12]**
aboriginal history	-0.001	-0.053	-0.024	-0.007	0.027	0.01	0.047
	[-4.25]**	[-5.51]**	[-5.69]**	[-5.40]**	[5.57]**	[5.52]**	[5.46]**
speak at home	0.001	0.088	0.032	0.006	-0.048	-0.015	0.065
	[1.74]	[3.77]**	[4.52]**	[6.18]**	[-3.56]**	[-4.14]**	[4.52]**
speak elsewhere	0.001	0.041	0.017	0.004	-0.022	-0.007	0.033
	[3.04]**	[2.02]**	[2.24]**	[2.70]**	[-1.97]*	[-2.04]**	[2.20]**
speak at work	-0.001	-0.069	-0.036	-0.013	0.029	0.014	0.077
	[-4.26]**	[-4.61]**	[-3.84]**	[-3.10]**	[6.14]**	[4.25]**	[3.69]**
Pseudo R^2	0.0227						
Observations	7,886						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 9: Refined Educational Attainment Results For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7
age	0.000	0.002	0.000	0.000	-0.001	0.000	-0.001
	[1.41]	[1.78]	[1.43]	[1.43]	[-1.69]	[-1.42]	[-1.23]
gender	0.001	0.025	0.007	0.001	-0.013	-0.003	0.018
	[2.73]**	[2.32]**	[2.27]**	[1.73]	[-2.28]**	[-2.18]**	[2.35]**
Atlantic	-0.002	-0.076	-0.026	-0.007	0.036	0.010	0.065
	[-3.29]**	[-3.93]**	[-3.27]**	[-2.69]**	[4.62]**	[3.44]**	[3.28]**
Quebec	-0.003	-0.131	-0.05	-0.015	0.053	0.018	0.128
	[-3.86]**	[-7.34]**	[-5.62]**	[-4.04]**	[11.10]**	[5.96]**	[5.28]**
Ontario	-0.002	-0.087	-0.031	-0.008	0.04	0.012	0.077
	[-3.17]**	[-4.70]**	[-3.91]**	[-2.96]**	[5.61]**	[4.18]**	[3.89]**
Prairies	-0.002	-0.085	-0.029	-0.007	0.041	0.011	0.072
	[-2.96]**	[-4.69]**	[-4.11]**	[-3.17]**	[5.29]**	[4.07]**	[4.09]**
BC	-0.002	-0.095	-0.036	-0.010	0.041	0.013	0.089
	[-3.24]**	[-5.36]**	[-4.33]**	[-3.16]**	[7.06]**	[4.49]**	[4.18]**
urban	-0.001	-0.021	-0.006	-0.001	0.011	0.003	0.016
	[-2.96]**	[-1.92]	[-1.78]	[-1.40]	[1.96]*	[2.11]**	[1.93]
speak language	0.002	0.056	0.014	0.002	-0.031	-0.007	-0.036
	[2.05]**	[2.44]**	[2.72]**	[4.12]**	[-2.36]**	[-2.64]**	[-2.65]**
read or write language	-0.002	-0.099	-0.037	-0.011	0.043	0.013	0.092
	[-3.24]**	[-6.03]**	[-4.80]**	[-3.79]**	[7.76]**	[4.70]**	[4.71]**
traditional activity	-0.002	-0.06	-0.019	-0.004	0.030	0.008	0.047
	[-4.09]**	[-5.64]**	[-5.12]**	[-4.10]**	[5.62]**	[5.13]**	[5.30]**
mental health condition	-0.001	-0.034	-0.011	-0.003	0.017	0.004	0.028
	[-1.06]	[-0.86]	[-0.76]	[-0.75]	[0.96]	[0.74]	[0.79]
residential school	-0.001	-0.021	-0.006	-0.001	0.011	0.003	0.016
	[-2.13]**	[-1.24]	[-1.07]	[-1.03]	[1.32]	[1.34]	[1.16]
aboriginal teachers	0.002	0.061	0.015	0.001	-0.034	-0.007	0.038
	[1.77]	[2.55]**	[3.24]**	[2.39]**	[-2.40]**	[-2.63]**	[2.98]**
taught in language	0.002	0.076	0.022	0.004	-0.04	-0.009	0.055
	[2.36]**	[4.40]**	[4.34]**	[3.84]**	[-4.27]**	[-3.92]**	[4.41]**
aboriginal history	-0.002	-0.067	-0.021	-0.005	0.033	0.009	0.053
	[-3.81]**	[-6.13]**	[-5.32]**	[-4.44]**	[6.25]**	[5.48]**	[5.53]**
speak at home	0.002	0.062	0.015	0.002	-0.034	-0.007	-0.039
	[1.69]	[2.30]**	[2.68]**	[4.63]**	[-2.18]**	[-2.28]**	[-2.56]**
speak elsewhere	0.001	0.039	0.010	0.001	-0.021	-0.005	-0.026
	[1.02]	[1.49]	[1.61]	[1.57]	[-1.43]	[-1.66]	[-1.61]
speak at home	-0.002	-0.082	-0.030	-0.008	0.036	0.011	0.074
	[-3.14]**	[-3.43]**	[-2.82]**	[-2.10]**	[4.44]**	[3.08]**	[2.74]**
Pseudo R^2	0.0183						
Observations	7,457						

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 7 correspond to the following educational levels: Grades 1-6 or less, some high school education, completed high school, some post-secondary, non-university post-secondary completion, some university completion and university completion.

Table 10: Refined Employment Model For Individuals 24-41 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
educ	-0.034	-0.010	-0.010	-0.004	-0.002	0.060
	[-11.76]**	[-10.06]**	[-10.28]**	[-8.50]**	[-5.47]**	[12.51]**
age	-0.003	-0.001	-0.001	0.000	0.000	0.005
	[-3.55]**	[-3.96]**	[-3.71]**	[-3.07]**	[-2.55]**	[3.21]**
gender	-0.081	-0.23	-0.026	-0.011	-0.005	0.145
	[-9.36]**	[-7.87]**	[-8.60]**	[-7.68]**	[-4.94]**	[9.42]**
Atlantic	0.086	0.021	0.020	0.006	-0.001	-0.131
	[4.18]**	[4.84]**	[5.48]**	[6.58]**	[-0.65]	[-4.79]**
Quebec	0.050	0.013	0.013	0.005	0.000	-0.081
	[2.47]**	[2.69]**	[2.89]**	[3.69]**	[0.45]	[-2.69]**
Ontario	0.018	0.005	0.005	0.002	0.001	-0.031
	[0.99]	[1.04]	[1.01]	[1.10]	[1.67]	[-1.03]
BC	0.052	0.013	0.013	0.005	0.000	-0.082
	[2.55]**	[2.77]**	[3.01]**	[4.07]**	[0.000]	[-2.77]**
Prairies	0.009	0.002	0.003	0.001	0.000	-0.015
	[0.61]	[0.49]	[0.68]	[0.58]	[0.64]	[-0.59]
urban	0.003	0.001	0.001	0.000	0.000	-0.006
	[0.31]	[0.36]	[0.34]	[0.35]	[0.36]	[-0.35]
speak language	0.078	0.02	0.02	0.007	0.000	-0.125
	[4.08]**	[4.46]**	[4.93]**	[5.64]**	[0.000]	[-4.53]**
read or write language	-0.011	-0.003	-0.003	-0.001	-0.001	0.019
	[-0.75]	[-0.70]	[-0.64]	[-0.50]	[-1.10]	[0.72]
traditional activity	0.022	0.006	0.006	0.002	0.001	-0.037
	[2.14]**	[2.16]**	[2.07]**	[2.26]**	[3.25]**	[-2.15]**
mental health condition	0.257	0.037	0.023	-0.003	-0.028	-0.286
	[3.13]**	[9.24]**	[5.75]**	[-0.40]	[-1.90]	[-4.91]**
residential school	0.060	0.015	0.015	0.005	-0.001	-0.093
	[3.10]**	[3.56]**	[4.02]**	[5.17]**	[-0.47]	[-3.45]**
speak at home	0.046	0.012	0.012	0.005	0.001	-0.075
	[2.25]**	[2.39]**	[2.47]**	[3.13]**	[1.90]	[-2.38]**
speak elsewhere	0.075	0.019	0.019	0.006	0.000	-0.118
	[3.35]**	[3.74]**	[4.12]**	[4.63]**	[-0.16]**	[-3.69]**
speak at work	-0.098	-0.034	-0.042	-0.021	-0.018	0.213
	[-8.55]**	[-6.59]**	[-6.12]**	[-5.14]**	[-4.08]**	[7.01]**
Pseudo R^2	0.0376					
Observations	7,886					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Table 11: Refined Employment Model For Individuals 42-59 Years of Age

	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
educ	-0.043	-0.005	-0.007	-0.004	-0.004	0.063
	[-12.29]**	[-9.36]**	[-10.03]**	[-8.42]**	[-7.51]**	[12.56]**
age	0.007	0.001	0.001	0.001	0.001	-0.010
	[5.97]**	[7.03]**	[5.09]**	[8.08]**	[7.75]**	[-5.89]**
gender	-0.065	-0.007	-0.01	-0.007	-0.007	0.096
	[-5.76]**	[-5.01]**	[-5.29]**	[-5.67]**	[-5.33]**	[5.80]**
Atlantic	0.170	0.014	0.018	0.009	0.002	-0.213
	[6.29]**	[7.13]**	[8.60]**	[9.10]**	[1.03]	[-7.30]**
Quebec	0.112	0.010	0.014	0.008	0.004	-0.149
	[4.05]**	[4.57]**	[5.31]**	[6.31]**	[4.00]**	[-4.56]**
Ontario	0.070	0.007	0.01	0.006	0.004	-0.096
	[2.79]**	[3.12]**	[3.44]**	[3.84]**	[4.99]**	[-2.99]**
BC	0.087	0.008	0.011	0.006	0.004	-0.116
	[3.23]**	[3.66]**	[4.06]**	[4.48]**	[5.51]**	[-3.55]**
Prairies	0.032	0.003	0.005	0.003	0.003	-0.046
	[1.53]	[1.40]	[1.67]	[1.70]	[2.07]**	[-1.57]
urban	0.006	0.001	0.001	0.001	0.001	-0.009
	[0.48]	[0.74]	[0.52]	[0.83]	[0.86]	[-0.50]
speak language	0.078	0.008	0.011	0.006	0.004	-0.107
	[3.04]**	[3.50]**	[3.65]**	[3.72]**	[4.65]**	[-3.26]**
read or write language	0.003	0.000	0.000	0.000	0.000	-0.004
	[0.11]	[0.11]	[0.12]	[0.12]	[0.12]	[-0.11]
traditional activity	0.027	0.003	0.004	0.003	0.002	-0.039
	[2.16]**	[2.26]**	[2.13]**	[2.63]**	[1.94]	[-2.19]**
mental health condition	0.215	0.014	0.016	0.006	-0.008	-0.242
	[2.80]**	[6.29]**	[11.88]**	[2.61]**	[-0.81]	[-3.60]**
residential school	0.031	0.003	0.005	0.003	0.002	-0.044
	[1.33]	[1.32]	[1.62]	[1.72]	[1.67]	[-1.39]
speak at home	0.070	0.007	0.009	0.005	0.004	-0.096
	[2.34]**	[2.68]**	[2.60]**	[2.77]**	[4.88]**	[-2.52]**
speak elsewhere	0.049	0.005	0.007	0.004	0.003	-0.069
	[1.58]	[1.71]	[1.79]	[1.84]	[2.29]**	[-1.68]
speak at work	-0.097	-0.013	-0.020	-0.014	-0.019	0.162
	[-5.02]**	[-4.28]**	[-4.00]**	[-3.66]**	[-3.16]**	[4.44]**
Pseudo R^2	0.0373					
Observations	7,457					

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Ordered Probit regressions, rounded to three decimal places. Levels 1 through 6 correspond to the following number of weeks worked in 2005: No weeks worked, 1-13 weeks worked, 14-26 weeks worked, 27-39 weeks worked, 40-48 weeks worked and 49 to 52 weeks worked.

Appendix D: Instrumental Variables For Speaking an Aboriginal Language

Table 12: Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
age	909	-341	0.04	-0.01
	[11.09]**	[3.04]**	[8.90]**	[-1.82]
gender	13,422	16,225	0.65	0.65
	[14.27]**	[13.89]**	[12.21]**	[10.39]**
Atlantic	-15,890	-19,610	-0.48	-0.45
	[-7.28]**	[-5.97]**	[-5.52]**	[-4.61]**
Quebec	-14,163	-13,658	-0.38	-0.31
	[-6.33]**	[-3.99]**	[-4.02]**	[-2.69]**
Ontario	-9,542	-7,793	-0.29	-0.27
	[-4.44]**	[-2.33]**	[-3.00]**	[-2.33]**
BC	-11,384	-10,491	-0.35	-0.26
	[-5.61]**	[-3.18]**	[-3.86]**	[-2.18]**
Prairies	-7,474	-8,632	-0.30	-0.26
	[-4.27]**	[-3.20]**	[-3.73]**	[-2.90]**
urban	-2,365	228	-0.01	-0.02
	[-2.09]	[0.18]	[-0.19]	[-0.40]
speak language	-31,720	-14,805	-0.68	-0.42
	[-6.79]**	[-2.34]**	[-4.28]**	[-1.68]
read or write language	13,045	4,301	0.34	0.09
	[4.50]	[1.27]	[1.65]	[0.36]
traditional activity	-266	-518	-0.07	0.01
	[-0.30]	[-0.46]	[-1.42]	[0.16]
mental health condition	-13,043	-15,544	-0.10	-0.27
	[-5.08]**	[-4.19]**	[-0.61]**	[-1.48]
residential school	-1,509	1,667	0.01	0.15
	[-1.07]**	[0.71]**	[0.12]	[1.58]
R^2	0.0678	0.0785	0.0585	0.0515
Observations	7,866	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services.

Table 13: Refined Earnings of Respondents

	Earnings		Log Earnings	
	24-41	*42-59*	*24-41*	*42-59*
age	914	-362	0.04	-0.01
	[16.18]**	[-4.71]**	[8.63]**	[-1.76]
gender	11,646	13,492	0.67	0.65
	[19.15]**	[16.95]**	[12.12]**	[10.39]**
Atlantic	-8,615	-15,156	-0.42	-0.46
	[-6.15]**	[-7.31]**	[-5.25]**	[-5.19]**
Quebec	-5,873	-11,309	-0.31	-0.32
	[-4.52]**	[-5.36]**	[-3.62]**	[-3.09]**
Ontario	-1,608	-2,994	-0.20	-0.29
	[-1.16]	[-1.40]	[-2.29]**	[-2.69]**
BC	-5,278	-7,014	-0.27	-0.27
	[-3.59]**	[-3.24]**	[-3.22]**	[-2.57]**
Prairies	-2,601	-5,018	-0.21	-0.26
	[-2.29]**	[-3.03]**	[-2.80]**	[-3.36]**
urban	314	3247	-0.01	-0.02
	[-2.09]**	[3.38]**	[-0.05]	[-0.46]
speak language	-31,018	-18,442	-0.87	-0.61
	[-3.75]**	[-1.44]	[-3.48]**	[-1.16]
read or write language	7,927	3,892	0.37	0.14
	[3.37]**	[1.50]	[1.66]	[0.63]
traditional activity	-652	-73	-0.07	0.02
	[-0.97]	[-0.09]	[-1.40]	[0.34]
mental health condition	-10,645	-12,115	-0.05	-0.26
	[-4.14]**	[-3.63]**	[-0.31]	[-1.42]
residential school	1,254	2,452	0.05	0.21
	[1.03]	[1.39]	[0.53]	[1.73]
speak at home	1,563	-960	0.51	0.14
	[0.48]	[-0.19]	[1.64]	[0.41]
speak elsewhere	3,078	-1,332	0.24	-0.10
	[1.10]	[-0.26]	[0.94]	[-0.27]
speak at work	13,651	15,476	0.73	0.49
	[11.16]**	[8.44]**	[6.35]**	[2.92]**
R^2	0.0712	0.0793	0.0420	0.0440
Observations	7,886	7,457	6,647	5,877

NOTES: Robust t-statistics in brackets; * significant at 5%; ** significant at 1%. Figures in columns one and two are in Canadian dollars and rounded to the nearest dollar. Coefficients in columns three and four are estimated from coefficients as follows: $e^{\beta} - 1$. Estimates in columns 3 and 4 are rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services.

Table 14: Revised Education Models

	Education Extended		Education	
	24-41	*42-59*	*24-41*	*42-59*
age	0.00	-0.01	0.00	-0.01
	[1.63]	[-3.23]**	[1.31]	[-3.68]**
gender	-0.07	-0.04	-0.07	-0.04
	[-5.27]**	[-2.77]**	[-5.43]**	[-2.87]**
Atlantic	0.1	-0.01	0.11	0.01
	[3.40]**	[-0.24]	[3.17]**	[0.14]
Quebec	0.10	0.08	0.11	0.09
	[3.33]**	[1.83]	[3.04]**	[2.05]**
Ontario	0.10	0.05	0.11	0.07
	[3.60]**	[1.30]	[3.30]**	[1.58]
Prairies	0.09	0.06	0.09	0.06
	[3.60]**	[1.87]	[3.16]**	[1.77]
BC	0.09	0.08	0.09	0.09
	[2.86]**	[2.06]**	[2.55]**	[2.22]**
urban	0.02	0.01	0.02	0.01
	[1.74]	[0.64]	[1.69]	[0.65]
speak language	-0.4	-0.44	-0.28	-0.26
	[-2.42]**	[-1.80]	[-3.58]**	[-3.00]**
read or write language	0.13	0.15	0.11	0.15
	[2.55]**	[3.65]**	[2.15]**	[3.23]**
traditional activity	0.03	0.06	0.03	0.06
	[2.48]**	[3.90]**	[2.62]**	[3.95]**
mental health condition	-0.15	0.01	-0.14	0.01
	[-1.91]	[0.26]	[-1.86]	[0.14]
residential school	-0.03	0.06	-0.04	0.04
	[-0.88]	[1.77]	[-1.24]	[1.36]
aboriginal teachers	-0.02	-0.05		
	[-0.93]	[-1.54]		
taught in language	-0.04	-0.07		
	[-3.49]**	[-4.49]**		
aboriginal history	0.06	0.05		
	[4.78]**	[3.78]**		
speak at home	-0.01	0.10		
	[-0.09]	[1.00]		
speak elsewhere	0.03	0.03		
	[0.63]	[0.35]		
speak at work	0.09	0.06		
	[3.42]**	[1.48]		
Pseudo R^2	0.0339	0.0220	0.0261	0.0107
Observations	7,886	7,457	7,886	7,457

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Probit regressions, rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services. Both the Education and Education Extended Models correspond to the Models tested in Tables 3,4,8 and 9, but with a binary dependent variable, high school. This variable takes a value of 1 if an individual has completed high school, and zero if a person has not.

Table 15: Revised Employment Models

	Employment Extended		Employment	
	24-41	*42-59*	*24-41*	*42-59*
educ	0.05	0.05	0.05	0.05
	[9.71]**	[11.23]**	[10.22]**	[11.87]**
age	0.01	-0.01	0.01	-0.01
	[4.46]**	[-6.06]**	[4.56]**	[-6.35]*
gender	0.14	0.09	0.14	0.09
	[9.51]**	[5.76]**	[9.46]**	[5.83]**
Atlantic	-0.13	-0.25	-0.15	-0.24
	[-3.62]**	[-5.61]**	[-3.59]**	[-5.48]**
Quebec	-0.07	-0.15	-0.1	-0.15
	[-2.03]*	[-3.42]**	[-2.20]**	[-3.31]**
Ontario	-0.03	-0.1	-0.05	-0.1
	[-0.81]	[-2.39]**	[-1.25]	[-2.28]*
BC	-0.05	-0.1	-0.08	-0.1
	[-1.47]	[-2.36]**	[-1.89]	[-2.31]*
Prairies	0.03	-0.04	0.01	-0.05
	[1.10]	[-1.36]	[0.17]	[-1.52]
urban	-0.01	0	-0.01	0
	[-0.62]	[-0.05]	[-0.74]	[-0.03]
speak language	-0.55	-0.55	-0.32	-0.28
	[-2.70]**	[-2.10]*	[-3.38]**	[-3.12]**
read or write language	0.08	0.07	0.07	0.06
	[1.37]	[1.32]	[1.23]	[1.11]
traditional activity	-0.03	-0.03	-0.04	-0.04
	[-1.96]*	[-1.96]*	[-2.13]**	[-2.34]**
mental health condition	-0.27	-0.27	-0.27	-0.27
	[-3.96]**	[-3.64]**	[-4.10]**	[-3.73]**
residential school	-0.08	0	-0.09	-0.02
	[-2.29]**	[0.00]	[-2.82]**	[-0.61]
speak at home	0.12	0.07		
	[1.31]	[0.68]		
speak elsewhere	0.02	0.09		
	[0.25]	[0.79]		
speak at work	0.21	0.18		
	[5.90]**	[3.77]**		
Pseudo R^2	0.0756	0.0847	0.0504	0.0527
Observations	7,886	7,457	7,886	7,457

NOTES: Robust z statistics in brackets; * significant at 5%; ** significant at 1%. All figures reported correspond to marginal effects from Probit regressions, rounded to two decimal places. The variable "speak" is an instrumental variable comprised of if an individual has one of the following five services available to them in an Aboriginal language: health services, justice or policing services, counseling services, educational services or financial services. Both the Employment and Employment Extended Models correspond to the Models tested in Tables 5,6,10 and 11, but with a binary dependent variable, weeks worked. This variable takes a value of 1 if an individual has worked 27 weeks or more, and zero if a person has not.