The Intergenerational Effect of Forcible Assimilation Policy on School Performance

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Abstract

For nearly a century, the Canadian government forcibly separated indigenous children from their families and placed them in live-in institutions, known as Indian Residential Schools. Close to 50 percent of North American Indian children have a family member who attended residential school in Canada, and many speculate that the legacy of residential schooling has contributed to the educational struggles indigenous children face today. Using a unique confidential data set, I identify the effects of mothers' attending a residential school on their children. I find that children whose mother attended a residential school are less likely to perform well in school, less likely to enjoy school or to get along with their teachers, but fare better along health dimensions and receive no less parental investment. I provide evidence that these findings are not due to the location choice of the parents and argue that these findings are consistent with a standard Heckman model of skill production where parental attitudes toward education play a pivotal role. I add to the existing literature on childhood development by demonstrating that policies that negatively influence parental attitudes toward education may negatively influence the next generation even if the policy has little or positive effects on parental skills, investment and child health.

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1 Introduction

Educational inequity between indigenous peoples and non-indigenous people is prevalent (United Nations 2009). However, there is a large amount of diversity in its extent. For example, in 2006 and 2008 the gap in high school graduation rates between indigenous people and non-indigenous people in Canada and Australia was nearly 30 percent. On the other hand, in New Zealand the high school graduation gap was only 13 percent.[1] While many informal explanations have been given for the educational gap and its differences, one policy often accredited with devastating effects is the forcible removal of indigenous children from their homes and their placement in boarding schools. In Canada, these were known as Indian Residential Schools. These institutions were designed to educate and culturally assimilate indigenous children (Smith 2009) and it has been proposed that parents' experiences in these schools resulted in worse educational outcomes among their children. The statistics above are consistent with this hypothesis: both Canada and Australia aggressively implemented policies of removal while New Zealand did not. I offer evidence that this relationship is beyond anecdote: however I suggest the channels through which it operates is more nuanced that previous literature has suggested. In doing so, I contribute to the literature on childhood skill production by providing evidence on the importance of parental experiences with education and the channels through which they influence child development.

The intergenerational effect of residential schooling and the channels through which it operates are of substantial importance: nearly 50 percent of individuals who identify as North American Indian reported that at least one family member attended residential school (Statistics Canada 2003), yet the empirical literature on the intergenerational effects of residential schooling is sparse. Numerous authors in history and sociology suggest that residential schooling has led to a plethora of social dysfunctions in indigenous families and communities that must be dealt with in order for the disparities between indigenous and non-indigenous people to be eliminated.[2] The Canadian Truth and Reconciliation Commission on Indian Residential School's claims that "...[residential schools'] impact has been transmitted from grandparents to parents to children. This legacy from one generation to the next has contributed to social problems, poor health, and low educational success rates in indigenous communities today," (Truth and Reconciliation Commission (TRC) 2010, 1). The policies of forcible child removal from Indigenous families in Australia have been perceived similarly, with the government Human Rights and Equal Opportunity Commission claiming "[f]or individuals, their removal as children and the abuse they experienced at the hands of the authorities or their delegates have permanently scarred their lives. The harm continues in later generations, affecting their children and

[1] See the Australian Bureau of Statistics (2008), Stewart (2006), and The New Zealand Household Labour Force Survey (2008).

[2] See the Aboriginal Healing Foundation (1999), Milloy (1999), Stonefish (2007), and Chrisjohn, Young and Maraun (2006).

grandchildren," (1997, 4). Whether residential schooling has intergenerational effects and their nature is pivotal to understanding how education and other policy should be constructed. For example, the policy implications are different if residential schooling harmed parents willingness or ability to invest in their children, or if it reduced their skills, or if it negatively influenced their attitudes toward education. The best use of resources requires understanding which of channels are the most significant.

The study of the intergenerational effects of residential schooling is also useful more broadly. There is a large literature on the intergenerational effect of educational interventions[3] and on the importance of non-cognitive skills in determining child outcomes.[4] Previous literature on ethnic minority groups suggests that educational disparities between these groups and the general population are in a large part due to differences in parental cognitive and non-cognitive skills (Todd and Wolpin 2007). Yet the literature investigating the channels through which these differences operate is relatively sparse (Hlemers and Patnam 2011) and generally relies on a given set of parental background differences not induced by policy changes. In this work I explore differences in these parental background characteristics induced by a major policy change and shed light on the channels through which they operate.

In particular, I contribute to the growing literature on the importance of the intergenerational transmission of attitudes and how they affect children's educational attainment (Foley, Gallipoli and Green 2012; Dohmen, Falk, and Sunde 2012). To the best of my knowledge this is the first work demonstrating that an intervention that improves educational attainment directly may have negative educational consequences intergenerationally. In addition, I believe it is also the first work examining a policy that affects children's health and educational outcomes in opposite directions. I suggest that this difference is due to important changes in parental attitudes toward schooling.

To set ideas, I construct a dynamic factor model of parental skill and attitude formation which is allowed to depend on residential school attendance and unobservable family background characteristics. These skills and attitudes then affect investment in children and consequentially children's skill, schooling and health outcomes. Using the confidential children's wave of the 2001 Aboriginal Peoples Survey I obtain a set of measurements for children's educational, health and attitude outcomes, as well as measures of parental skills, investment and residential school attendance. While the prelimiary results here only include the reduced form and proxy estimators of the model, structural estimates of the model which are obtained by expanding on the results of Cuhna and Heckman (2007, 2008) and Cunha, Heckman and Schennach (2010) are in progress. Their approach exploits covariance restrictions and the availability of multiple imperfect measures of the underlying factors in order to estimate the latent parameters.

[3] See Currie and Moretti (2003) and Oreopoulos, Page and Stevens (2006).

[4] See, for example, Gottfredson (2002), Herrnstein and Murray (1994), Heckman, Urzua, and Stixrud (2006), Borghans, Duckworth, Heckman, and ter Weel (2008), and Heckman and Kautz (2012).

In line with previous literature, I demonstrate that there is little evidence that residential schooling harms the educational attainment or labour market outcomes of those that attended (Feir 2012; Jones 2013). This suggests that residential schooling did not harm the cognitive skills of parents. There is also no clear evidence that residential school attendance decreases parents' non-cognitive skills. I then demonstrate that, even conditional on measures of parental cognitive and non-cognitive skills, those that attended residential school are more likely to invest in their children's outcomes and their children realize better health outcomes (such as a decreased BMI, increased height, and an increase in physical activity). However, simultaneously, children demonstrate worse attitudes toward schooling (such as being less likely to get along very well with teachers or like school most of the time) and worse educational outcomes (such as being more likely to be suspended or expelled and less likely to win awards). The fact that child health improves with parental residential school attendance suggests that these results cannot be explained by residential schooling negatively affecting the marginal productivity of parental investment. Rather, I suggest the results are most naturally explained by differing parental attitudes toward education.

In the next section I provide a brief history of residential schooling and discuss the existing literature on the intergenerational effects of residential schools. In Section 3 I discuss the data and basic patterns in the data. In section 4 I discuss the empirical framework and in section 5 I present reduced form results. Section concludes.

2 Brief History and Literature Review

In Canada it is estimated that 150,000 indigenous children attended residential schools, with 80,000 former students living today (Truth and Reconciliation Commission 2012). Although residential schools existed in Canada since the early 1900s, the Indian Act permitted the forcible removal of children into residential school beginning in 1920. An amendment to the Indian Act made school attendance mandatory for all Indian children between the ages of seven and fifteen. However the Act left a substantial amount of discretion to the Superintendent General of Indian Affairs as to which type of school a child had to attend (a day or residential school). This discretion resulted in residential schools being operated for "orphan children, children from broken homes and those who because of isolation or the migratory way of life of their families, are unable to attend day schools," (The Administration of Indian Affairs 1964, 44). Confidential reports in the 1960s suggested that from 50 to 75 percent of children in residential schools fell into the category of "neglected." However, there has also been some argument that many of the children sent to residential schools were not sent because they were neglected, but because of the poverty of their parents and/or a misunderstanding of indigenous culture (Johnston 1983; Jacobs and White 1992). Feir (2012) provides

statistical evidence that indigenous children were heavily selected from the most culturally traditional homes. If the law were enforced to its full extent, children could be forcefully removed from their home by truancy officers and their parents subject to fines or imprisonment (Indian Act 1920). Officially, before the late 1960s and 70s, "Indians took no part in the processes of education," (Hawthorn 1967, 40). Perhaps more appropriately, it could be said that those legally classified as "Indians" were not permitted to participate in the education of their children. However, parents are frequently described as resistant to the residential schooling system, attempting to prevent their children from attending these schools both indirectly and overtly (Furniss 1995; Haig-Brown 1991).

Children were often taken extraordinary distances to attend a residential school and, although children were permitted to return home for summer vacation, many didn't see their family for years due to the cost of traveling home (Miller 1996, 311-312; Aboriginal Healing Foundation, 2002; McFarlane 1999). Upon arrival, children's clothing was replaced and their hair was cut. For some children, the act of removing their braids was particularly traumatic given a cultural spiritual significance (Truth and Reconciliation Commission 2012). The school system was much more regulated than children's lives at home: half the day was spent in manual labour, while the other half in academics and religion (Gresko 1986; Milloy 1999). Schooling also involved cultural learning such as ethics, western culture, and gender roles. The manual labour component of residential schools partly funded the schools operations until it was officially banned in 1951 (Gresko 1986).

Children were often separated from their siblings and reports of loneliness were common (RCAP 1996). There was also variance in whether all children were removed from the home. Some parents attempted to hide their children and those that were discovered were the only ones taken. Variance in children taken from the home also occurred due to the opening and closure of residential schools around the age cut-off for children's attendance (Truth and Reconciliation Commission 2012).

Children were only permitted to speak English and were punished for speaking their native language. Some of these punishments were reported to have been severe. Examples of such severe punishment include being beaten to the point of permanent scarring (Crey and Fournier 1998, 62), having needles inserted into one's tongue (Aboriginal Healing Foundation 2002, 6), and being locked in a small closet for hours (Truth and Reconciliation Commission 2012). Residential schools are now notorious for the abuses children suffered when attending.[5] The discussion of these institutions often invokes very strong negative feelings. Numerous authors argue the Residential schooling system was an attempt by the government to eradicate the Indian way of life (Chrisjohn, Young and Maraun 2006). Some academics have concluded that terms like "cultural genocide" and "ethnocide" are appropriate in the case of the intent of the residential schools (Hudson and MacDonald 2012). Hudson and MacDonald assert that "the essence of what the Indian residential schooling system was

[5]See RCAP (1991), AFN (2002), Milloy (1999), and The Economist (2000).

about" was "the attempted destruction of indigenous languages, religions, and cultures in Canada" (Hudson and Donald 2012, 4). The Assembly of First Nations asserts that all the characteristics of the residential schooling system meets the UN convention of cultural genocide (Assembly of First Nations 2002).

After the Second World War, the Residential school system rapidly lost its political appeal and government policy shifted in favour of integrating indigenous children into the public educational system. The closing down of the residential schooling system took decades as the government arranged alternative schooling options for the children that attended and faced constant political battles with the religious organizations that ran the schools. The religious organizations were formally forced out of the residential schooling system in 1969 and talks began with First Nations communities for their eventual take over of the remaining schools. The residential schooling system became virtually extinct by the 1980s.

While the anecdotal evidence on the intergenerational effects of residential schooling and indigenous child removal are generally consistent with the view there were large negative consequences[6] there is very little empirical literature investigating this. The statistical literature on the intergenerational effects of residential school are sparse. Recent work by Bougie and Senécal (2010) statistically demonstrates a negative association between parental residential school attendance and parental perceptions of how well their child is doing in school for the off-reserve population. In addition, work by Bombay, Matheson, and Anisman (2013b) discusses association between family contact with the residential school system and depression and mental well-being. They study the on-reserve population and find those that had family attend a residential school often have worse mental health than those who did not have a family member attend. I build on this literature by not only examing both the on and off-reserve populations, but by examing a broad array of children's outcomes and the possible mechanisms through which residential schooling may impact these outcomes. In addition, unlike prior work, I account for the large selective component of parental residential school attendance.[7]

3 Data and Descriptive Statistics

I study the intergenerational effects of residential school using the confidential children's wave of the 2001 Aboriginal Peoples Survey (APS). The children's wave of the APS is a post-census survey whose target population is children who were identified as either Métis, North American Indian or Inuit by the head of household in the Census. The children's survey includes children under the age of fifteen and includes a rich set of demographic, health and educational information. The questions about the child were asked of the

[6] See AFN (2002), Ing (1999, 2000), Brow, Rodger, and Fraehlich (2009), Claes and Clifton (1998), Haig-Brown (1998), Gauthier (2010), Chrisjohn (1991), Meseyton (2005), Partridge (2010), Stonefish (2007), Thurston (2012), and Wesley-Esquimaux and Smolewski (2004).

[7] See Feir (2012), Jones (2013), Milloy (1999), and Miller (1996).

person in the household "most knowledgeable" about the child (Statistics Canada 2001).

I restrict the sample to those between seven and fifteen since I am interested in schooling outcomes. I also restrict the sample of individuals to be living outside of the Atlantic provinces, Quebec and the Territories. I do this because of the unique educational history of indigenous peoples in these areas to avoid over generalizing. Specifically, individuals in the Territories were exposed to residential schooling much later than in other areas of the country and the schools actually acted predominately as hostels, while in Quebec and the Atlantic provinces the education system had greater roots in French tradition than in the rest of the country.

The advantage of the confidential version of the 2001 children's wave relative to the public waves used by Bougie and Senécal (2010) is that the confidential wave includes the on-reserve population. Earlier versions of the APS did not include a children's component while later versions do not include an on-reserve component even in the confidential files. The 2001 APS surveyed 123 of the largest First Nations communities (reserves), 52 Inuit communities, 38 communities with a concentration of 40 percent or more indigenous peoples (28 of these communities are predominately Métis) and five additional communities with large numbers of indigenous peoples (Prince Albert, North Battleford, Wood Buffalo, Yellowknife and Whitehorse). While in most provinces these communities cover between 50 to 55 percent of the on-reserve population, there is notably less coverage of those living on reserve in British Columbia due to the large number of small reserves and the high cost of sampling. The inclusion of the on-reserve population is fundamental for understanding the affects of residential schooling since only children who were registered Indians could attend residential school and in 2002, approximately 60 percent of registered Indians lived on-reserve (Health Canada 2009). The work by Bombay, Matheson, and Anisman (2013b, 2013a) uses the First Nation's Regional Longitudinal Health Survey which does not include the on-reserve population and includes a more limited set of communities.

Unfortunately, the children's wave of the APS does not include an overly rich set of information about the individuals in the household with the child and cannot be matched backed to the adult wave of the 2001 APS because of sampling design. However, there is some basic information such as the number of individuals in the household, whether the child belongs to a two parent family, and education of the person who knows the child best. Uniquely, the survey also includes information on the residential schooling status of the individual who knows the child best as well was that individual's siblings residential school status. Overwhelmingly, the individual that knows the child the best was the birth mother (approximately 80 percent of the total sample after excluding missing observations). The other 20 percent were a mix of biological fathers, adoptive mothers or fathers, grandmothers, aunts, uncles, and foster parents. I restrict the sample to only individual's whose birth mother was the key respondent. I do this because it ensures more consistency in unobservables

of the children in the sample.

Table 1 demonstrates that mothers who attended a residential school are slightly older and are far more likely to have a sibling that attended. Note however that a substantial proportion that attended did not have siblings that attended. There are also notable differences in the proportion of children with indigenous hertiage from all sources between those that have a mother who attended residential school and those that do not. Mothers who attended residential school are more likely to located in the western provinces (Manitoba, Alberta or Saskatchewan), more likely to be on-reserve and less likely to have graduated high school. Feir (2012) demonstrates that being more likely to be on-reserve and less likely to have graduated high school are due to selection effects. We also see children whose primary caregiver attended residential school have on average one more brother or sister and are less likely to live in a two parent household. Children whose primary care giver attended a residential school are more far more likely to be registered. Again, this is likely due to the fact that residential schools were primarily provided for registered Indians. Thus, their children were more likely to be registered Indians themselves. In fact, it is somewhat informative that not all of the children of these individuals are registered Indians. This likely suggests substantial out marriage.

From the panel on children's schooling outcomes we can see that children who have a mother who attended residential school are more likely to not get along very well with the teachers and more likely to be suspended or expelled (school specific skills). Generally children of mothers who attended residential school seem to preform worse along schooling dimensions than children whose mother did not. From the panel on parental investment we see that children appear to be less likely to read very day, but are less likely to be injured in a given year and the results are generally mixed. Finally, individuals who have a mother who attended residential school appear to be more culturally connected than other children.

However, because children were systematically selected to attend residential school it is not clear how to interpret the differences in Table 1. In addition, there are many of metrics one can use to assess the impact of residential schooling. The next section provides a theoretical framework to think about the underlying factors that generate child outcomes. This provides discipline to how I will use the multiple metrics available and how to think about what these measures mean for children's ultimate schooling performance. It also provides structure to the selection problem and thus gives some guidance of how to overcome it. Section 5 then discusses the empirical implementation of the framework and discusses how I overcome selection problem.

4 Conceptual Framework: Model of Childhood Health and Skill Production

Substantial amounts of attention have been give to estimating the technology of skill formation and

education production (Cunha and Hechman 2008, Cunha et al 2010) and it is standard to assume parents predetermined characteristics and investments influence a child's ultimate outcomes (Todd and Wolpin 2003, 2007, Carneiro and Heckman 2003, Heckman 2008). Much of the literature has the advantage of panel data on early childhood outcomes. While I only have cross-sectional data, I can take advantage of knowledge of investment in early childhood.

Residential schooling may influence child outcomes in several ways. It could influence predetermined parental characteristics, parental investment conditional on ability to invest in children, and the mariginal product of investing in children. Recent work by Foley, Gallipoli, and Green (2009) suggests parental attitudes toward education, omitted in many models, may be a major factor in determining whether a child graduates high school[8] and other recent work has shown strong correlations between parent and child risk aversion and trust attitudes (Dohmen, Armin, and Huffman 2008). In light of this literature, I allow for the framework below to account for the possible importance of parental attitudes as well as other traditional factors. Allowing for this possibility is important to explain the results of the reduced form estimators discussed in Section 6.

Following the literature on childhood skill production discussed above, I propose that children's outcomes are generated through parental investment, skills, and attitudes and that technology that generates these outcomes can be represented by a dynamic latent factor model. The propose of outlining this model here, even though the estimation of its structural parameters is still in process, is to provide a structured way one can think about the reduced form results given in Seciton 6. The model has four stages: the formation of parental skills and attitudes, parental investment in children, the generation of child skills, and finally child outcomes.

4.1 Period Zero: The Shaping of Parents

In period zero, parental cognitive and non-cognitive skills are shaped. Cognitive skills can be thought of most simply as I.Q, whereas non-cognitive skills are often assumed to include things such as personality traits, persistence, attitudes, and motivation. Let the set of cognitive skills be denoted by θ_0^C. Let non-cognitive skills be decomposable into a general set of non-cognitive skills, denoted by θ_0^N, and at set of attitudes towards schooling, denoted by a vector θ_0^a. The final relevant factor is parent's ability to translate any investments they make in their children into improved child outcomes. Let this be given by the mariginal effectiveness of parental investment, given by θ_0^I. The vector of these factors is denoted by θ_0 and are determined by,

$$\theta_0 = f_0(\kappa,\ x,\ r,\ \epsilon) \tag{1}$$

[8] This is even conditional on parental knowledge of child ability.

where κ is vector of unobservable family level traits that determine traditional cultural connection and may be correlated to measures of cognitive and non-cognitive skills, x is a vector of randomly assigned individual-specific, directly observable traits such as age. Residential school attendance may be determined by x and κ. The function$f$ maps its components to the set of skills and may vary by component. The variable r is an indicator equal to one if an individual attended a residential school and zero otherwise and ϵ is a vector of all factors contributing to parental ability that are orthogonal to κ and x.

4.2 Period One: Investing in Children

In the next stage parents have children and make investments in their children's health, cognitive skills, non-cognitive skills and indirectly shape their children's attitudes toward education. Let I denote parent investment in their children. Empirically differencing between parental investment in cognitive, non-cognitive, health and attitudes is not possible (which is consistent with prior literature) so parents are assumed to invest in their children's skills uniformly. Investment is assumed to take the form on Equation 2. Investment depends the unobserved family background characteristics of the parent, κ and an idiosyncratic shock orthogonal to all other components in the model, ε. Investment in children is also a function of parental skills, θ_0^C, θ_0^C and parents' mariginal effectiveness at investing in their children, θ_0^I. The marginal effectiveness of investment is included in the determination of parental investment because how much a parent optimally wants to invest in their children will depend on how readily their investment will be transmitted into outcomes. Thus investment is determined by

$$I = \beta_1\theta_0^C + \beta_2\theta_0^N + \beta_3\theta_0^I + \alpha_I\kappa + \varepsilon. \tag{2}$$

4.3 Period Two: The Shaping of Children

A child's health is denoted by θ_1^H, and their cognitive skills and non-cognitive skills are denoted by θ_1^C and θ_1^N respectively. Children's non-cognitive skills include the child's attitude towards school. Whether the transmission of attitudes is through direct attempts at socialization by the parents (Bisin and Verdier 2000; Dohmen et al 2012) or through indirect transmission (such as observing parental attidutes towards school and adopting them) is not specified by the model. Either mechanism is permitted. Note that in more detailed dynamic model parental attitudes toward education may affect their children's cognitive ability (and thus health and other factors) indirectly thought their children's educational attainment in a given year. We have simplified here due to the fact I only have a cross-section of parents and children. Each factor is determined as follows:

$$\begin{aligned} \theta_1^C &= \gamma_C \theta_0^I \times I + \alpha_C \theta_0^a + \alpha_C \kappa + \varepsilon_C \\ \theta_1^N &= \gamma_N \theta_0^I \times I + \alpha_N \theta_0^a + \alpha_N \kappa + \varepsilon_N \\ \theta_1^H &= \gamma_H \theta_0^I \times I + \alpha_H \theta_0^a + \alpha_H \kappa + \varepsilon_H \end{aligned} \tag{3}$$

Parental investment in their children, I, influences child health and cognitive and non-cognitive skill development through the factor loading θ_0^I which is allowed to depend on residential schooling status. One could think about this as employing parenting practices that are more or less effective. Previous work in the sociological literature has argued that residential schooling has substantially influenced parenting practices in indigenous communities and thus I attempt to allow for the possibility here (Stout and Peters 2011). Child health and skill development is also possibly influenced by their parents unobservable background characteristics κ. Child attitudes toward schooling are formed by parental attitudes toward schooling and unobservable background characteristics of the parent and by some idiosyncratic shock ε.

4.4 Period Three: Children's Outcomes

In this final stage children's schooling outcomes are realized. Let this schooling outcome be given by y_j where j indexes the outcome of interest. I allow a child's schooling outcome to be affected by their latent health, cognitive and non-cognitive skills, their parents' skills and their attitudes toward schooling. Schooling outcome j is assumed to be determined by

$$y_j = \theta_1^C \alpha_C^j + \theta_1^N \alpha_N^j + \alpha_H^j \theta_1^H + \alpha_\kappa^j \kappa + \varepsilon_j. \tag{4}$$

Note the assumption that parental residential school attendance is not included in the outcome determination equation. This implies that residential school attendance can only influence child outcomes through the impact that it has on parental investment and attitudes which operate through child health and skills. It is also important to note that background parent cognitive and non-cognitive schools are assumed to only influence their children through the amount of investment they provide. Any natural ability differences are assumed to be accounted for by κ.

What I am interested in is not the role of the latent factors per se but rather the effect of residential schooling through its effect on the underlying determinants of child outcomes. Let $k \in \{CN, I, H\}$ and $\theta_1^k(r)$ be the k factor level of a child whose parent had a particular realization of r (where $r \in \{0, 1\}$). The effect of residential school on child schooling outcomes then would be given by:

$$y_j = \Sigma \theta_1^k(0) \alpha_k^j + [\Sigma \theta_1^k(1) \alpha_k^j - \Sigma \theta_1^k(0) \alpha_k^j] \times r + \alpha_\kappa^j \kappa + \varepsilon_j. \tag{5}$$

5 Econometric Framework and Identification

It is possible to estimate the latent factors discussed above using the results of Cunha and Hechman (2008) and Cunha et al (2010). Their work demonstrates that if more than one measure imperfect measure of a latent factor is available and as long as the other latent factors in the model are not picked up by the measures, the model above is fully identifed. What I need to estimate the above model includes at least two measures of child health, schooling attitudes, child skills, parental investments, and parental skills. Since Cunha and Heckman (2008) and Cunha et al. (2010) have measures of a child's cognitive skills and non-cognitive skills early in life, they can estimate a dynamic model of skill development. It is typical to assess cognitive skills using standardized tests scores while non-cognitive skills are typically assessed using psychological measures such as placement on a self-esteem index or a hyperactivity scale. However, due to data limitations I cannot separately identify cognitive and non-cognitive skills. Thus, I estimate parental skills and children's skills as one latent skill parameter, θ_0^{CN} and θ_1^{CN} respectively. Measures of parental skills include whether they have a high school degree or more, whether they have another parent in the home, the number of children they have, whether their main source of income was from employment, and whether their dwelling is in need of repair. I infer child skills from their performance in school given by y_j which includes whether or not the child has won an award for their grades or another activity, whether they have ever been suspended or expelled, whether the child gets along with their teachers and whether the child likes school. Unfortunately, measures on parental attitudes towards schooling are not present in the data. These are infered from their affect on child cognitive and non-cognitive skills conditional on the marginal product of parental investment, child health, parental investment, and parental cognitive and non-cognitive skills. While these measures are imperfect and less in line with the literature than ideal, they have the most intuitive appeal given the set of measures available.

The measures of parental investment however are well in line with the literature on child skill formation and include whether the child reads (or is read to), whether the child was breastfed, whether the child was injured in the past year, whether they eat breakfast everyday, eat vegetables everyday and whether they have been to the dentist in the past year. I also include the log of birth weight to account for pre-natal investment. My measures of child health include the natural log of height, the log of BMI and whether the child was more physically active then other children their age.

Let M_{it}^k denote a measure of investment where $i \in \{1, \ldots, m^k\}$ indexes the measure and $k \in \{CN, I, H\}$ and $t \in \{0, 1\}$ where zero indicates a factor relating to parents and one factors relating to children. The measurement system can bet represented by a factor structure given by:

$$M_{it}^k = \mu_{it}^k + \alpha_{it}^k \theta_t^k + \Delta_{it}^k, \tag{6}$$

where $m^k$is the number of measurements on skills, investments and health and where θ_t^k is a factor for component k. I normalize the factor loadings α_i^k to one.

A summary of the measurements used to identify the latent factors is given in Table 3. The results of estimating this factor system are in progress, but in the mean time it is possible to gain insight into the effect of residential schools underlying latent factor model by treating the measurement system discussed above as system of proxies. This is currently what is done in this paper and reported in Section 6. Consider the measurement system above once again. And let $\theta_t^k(r)$ be the k factor level of a child whose parent had a particular realization of r or the parent's skills depending on whether they attend residential school. The effect of residential school on child schooling on these measures is given by

$$M_{it}^k = \mu_{it}^k + \alpha_{it}^k \theta_t^k(0) + \alpha_{it}^k [\theta_t^k(1) - \theta_t^k(0)] \times r + \Delta_{it}^k. \tag{7}$$

Thus estimating the effect of residential school attendance on these underlying factors is implicitly possible by examining its relationship with the measures of the factor rather than the factor itself. In addition, one can use the measures as proxies for the latent factors when estimating the effect of residential school attendance on child educational outcomes. However when doing this new identification problems arise. For example if we were to estimate the effect of parental skills on child investment and we were to solve the measurement system for θ_0^{CN} and substitute into the investment equation, we would obtain an estimating equation with the measurement on the right hand side but also with the disturbance that helps determine it in the error. This means estimates will be inconsistent. The work in progress to estimate the full factor model is being conducted to avoid this problem.

5.1 Identification

In order to overcome the fact I cannot observe the factor κ and do not have multiple measures for κ, I impose that $\kappa = g(z) + \eta$ where η is a constant and z is set of factors that perfectly predict κ through the function g. In the basic model, I assume the function g is additively separable in its components and that all unobservable factors that affect selection into residential school status are embodied in κ. The factors z include whether or not one's sibling attended a residential school and whether their indigenous ancestry resulted from their material grandmother, grandfather, paternal grandmother or grandfather or some combination there of.

The results in Table 2 suggest that conditioning on these factors helps mitigate bias due to selection into residential schooling. The prior literature has demonstrated that children in families with close cultural

connections were more likely to be selected to attend residential school. However, once this selection is accounted for, residential schooling has large assimilative effects (Feir 2012; Jones 2013). Based on these findings, it would be expected that mothers' residential school attendance would be positively correlated with their children's registered Indian status due to the fact mothers had to have been registered Indians to attend residential school but at the same time that residential schooling itself would not have increased the likelihood of her child having registered Indian status. The same would be true regarding whether the child reported only indigenous origins. Thus, if conditioning on z eliminates any statistical relationship between registered indian status of the child and residential schooling of the mother can be seen as a test of the quality of the proxies for κ included in z.

The first panel of Table 2 reports association of a mother attending residential school with her child being a registered Indian. We see a large positive association even conditional on region and reported indigenous origins of the child. However, once whether a mother's sibling attending residential school is conditioned on, the association becomes small and insignificant. This suggests that a sibling's attendance at a residential school is highly correlated with the family characteristics that would cause someone to be selected into residential schooling. Similar results are seen in the second panel which reports the marginal effects of a mother attending a residential school on whether a child is reported to have only indigenous origins. We would suspect based on prior work that, since residential school attendance increases assimilation, a parent attending a residential school should not make her child be more likely to report indigenous origins. We see once residential schooling status of the siblings is controlled for, there is no association. This provides suggestive, reduced form evidence that I am capturing at least some signiticant component of κ through my measures z.

In the first part of section 6 I go through each stage of the model and investigate the role of mother's residential school attendance in outcomes. First I estimate a linearized, reduced form version of the mother's skill equation and see how residential schooling effects the development of these skills. I then investigate how residential school attendance impacts investment in children which is assumed to operate through parental skills and the marginal product of investment and provide supporting evidence that my measures of parental skills are postively correlated with investments as expected. The next table demonstrates that residential school attendance may have direct effects on health. Finally, I investigate the role of mother's residential school attendance on childrens attitudes towards school and their schooling performance.

6 Results

The results in Table 4 provide evidence on the formation of parental cognitive skills from period zero in the model above. The key item to note is that the marginal effect of attending a residential school does not statistically effect mother's educational attainment, number of children, the likelihood of receiving employment income, whether they live in a two parent household or whether their dwelling is in need of repair. These findings are not inconsistent with the findings of Feir (2012) and Jones (2013) whose results suggest increases in educational attainment and employment. The point estimate on high school graduation is of the correct sign and the confidence intervals contain their estimates. To see whether the difference in results is due simply to differences in identification strategy, I exploit the timing of residential school closure and distance to the closest residential school as in Feir (2012). This strategy unforunately results in infeasibly large estimates of the effect of residentials schooling on outcomes and the coefficients behaved irratically. This is likely due to the instruments being weakly associated with residential school attendance in this sample. I suspect this weak instruments problem results from my inability to match individuals back their "home reserve" as well Feir (2012) due to lack of band membership information in 2001 APS. These results suggest that given the direction of selection discussed in prior literature, I am underestimating the effect of residential schooling on parental skills and thus possibly other outcomes. Yet, the key point to take away from this table remains: residential school does not seem to harm parental skills according to these measures and the results are not inconsistent with prior work.

Given there appears to be little effect of residential schooling on parental skills, I would expect there to be essentially no difference in parental investment in their children based on residential school attendance other than the effect through the mariginal product of parental investment which causes parents to invest relatively more or less. Note that without inferring something about parental preferences it is impossible to predict how and decrease in the marginal effectiveness of parenting should influence optimal investment. Although those with a higher marginal product of investment may wish to invest more in their children because of a higher return, it is also possible those with a lower marginal product of investment would want to invest more if preferences are reference point based.

The results in Table 5 demonstrate that if anything, residential school attendance increases parental investment. Individuals whose mother's attended a residential school were no more likely to eat vegetables every day, to read every day, to have been to the dentist in the past year, and do not seem to have a higher birth weight. On the other hand, they are less likely to have been injured in the past year and more likely to have been breastfed.

One may be concerned that breastfeeding is not truly a measure of parental investment since formula is

relatively expensive and if residential schooling harms mother's ability to earn in the labour market, they more likely to breastfeed. However, the breastfeeding result is robust to conditioning on total household income and other household characteristics. One may also question whether the likelihood of child injury is a reliable measure of parental investment. Parents who use the television as a babysitter may have children who are less likely to be injured, but this would not typically be thought of as investment. Results not reported here indicate that child whose mother attended residential school do not watch any more hours of TV or spend more time on video games than other children. This suggests the reduced probability of injury cannot be through this channel.

It is important to condition on the measures of the latent family factor in order to conclude there is little evidence for residential schooling harming parental investment in their children. If one did not condition on the latent family factor, there would be evidence that mothers who attended residential school are less likely to take their child to the dentist, or have them read every day. The gender of the child also appears to be important. Female children are more likely to be taken to the dentist in the past year, more likely to eat vegetables every day and more likely to read every day. As expected female children have a lower birth weight, and are less likely to be injured.

To test whether parental investment and parental cognitive and non-cognitive skills are related in the way we would expect (parental skill measures should be positively associated with parental investment) I reconstruct Table 5 and then condition on measures of parental skills. The patterns in Table 6 are reassuring. Higher levels of parental education are associated with more investment on the part of the parent than lower levels of education as well as living in a two parent household. The marginal effect of mother's residential school attendance is unaffected by conditioning on measures of parental skills as would be expected given the lack of association between parental skills and residential school attendance. Any association between gender of the child and investment is eliminated after conditioning on parental skills possibly suggesting that girls live in households with different composition than boys.

Now that I have provided evidence that residential school attendance has little impact on parental skills but if anything increases parental investment, I provide evidence that residential schooling does not harm the mariginal product of investment. Table 7 shows that children that have a mother that attended residential school fare better along health dimensions than a child who does not.[9] This implies that residential schooling may in fact improve the the marginal product of parental investment in their children (at least along the dimension of health). Children who had a mother attend a residential school tend to be about 2 percent taller conditional on age and gender, have a significantly lower body mass index and more likely to be more

[9]These findings are consistent with Auld and Feir (2014) who find that residential school attendance directly affects adult height and decreases adult body weight of those that attended.

physically active. This suggests, somewhat sharply, that residential school attendance does not make mothers systematically less capable of caring for their children. Although the results not reported here, conditioning on parental skills or investment does not change this result.

Yet, despite these positive health outcomes, Table 8 shows that children who have a parent who attended residential school are 14 percent less likely to get a long with their teachers and 12 percent less likely to enjoy school almost all of the time. These worse schooling attitudes attributable to mother's attendance at a residential school are accompanied by worse school performance. Children are less likely to win awards of their grades or other activities and 4 percent more likely to be suspended or expelled. Specifications controlling for on-reserve status or more detailed geographical areas are not significantly different suggesting that the difference is not due to changes in school quality due to changes in mobility of the parents due to residential school. Table 9 and 10 demonstrate this as well as the fact none the results can be accounted for by our measures of parental skills, child skills and health. While child attitudes and schooling outcomes may in fact be simultaneously determined, these findings suggest that whatever drives child attitudes as well as child schooling outcomes. Given that I have ruled out changes in child health, investment and parental skills as reasons, the results suggest the residential schooling may operate through parental attitudes which the children's attitudes mirror.

Unfortunately the children's wave of the 2001 APS does not allow me to directly measure parental attitudes toward schooling nor does it allow me to disentangle the direction of causality between child attitudes and educational success. However, I can provide some suggestive evidence from the 1991 APS that parents that attended a residential school are more likely to have had negative experiences with education. Indigenous women who attended residential school, conditional on region, latitude, age and ethnic background were approximately 2.5 percent more likely to like nothing about school (t=4.70) and 1 percent more likely to dislike everything (t=2.28) using the same sample as Feir (2012). While these estimates do not control for selection, they are suggestive that parents who attended a residential school were more likely to have poor experiences with schooling. This makes it plausible they could develop worse attitudes toward schooling that are reflected in the attitudes of their children.

7 Discussion

Whereas there is substantial work still yet to be done to confirm these findings, I have presented evidence that residential schooling has negative intergenerational consequences for education. This is despite the evidence

that residential schooling does not negatively impact mother's ability or willingness to invest in their children skills. If anything, residential schooling seems to increase parental investment in their children and improve their children's health outcomes. I provide suggestive empirical evidence that residential schooling results in changes children's attitudes towards school which are plausibly explained by changes in parental attitudes toward education. These findings lend empirical support to the notion that residential schooling may be part of the reason indigenous children perform worse in school than their non-indigenous counterparts.

This work adds to the literature on the importance of parental/child attitudes toward education as drivers of children's schooling success with the novel result that despite increased parental investment and increases in child health, children preform worse in school. The evidence is consistent with parents having negative experiences with education in their own childhood and developing negative attitudes toward schooling that impact their children's performance. The fact that the health of children increases with mother's residential school attendance suggests that the ability of parents to be effective in investing the well-being of their children is not altered by residential school attendance. This provides an important message regarding the design of education policy: targeted efforts to improving attitudes toward schooling in populations that have negative histories with the schooling system may have large returns.

8 Tables and Figures

Table 1: Summary Statistics

Variable	Mother Attended RS	Mother Did Not Attended RS
Background Characteristics (x)		
Age of Child	10.342	10.396
	(0.16)	(0.066)
Gender of Child	0.596	0.487
	(0.038)	(0.015)
Age of Parent	37.061	35.068
	(0.421)	(0.174)
Latitude of Community	52.145	52.006
	(0.199)	(0.067)
Lives in Man, AB or SK	0.737	0.663
	(0.049)	(0.017)
The Child Is a Registered Indian	0.825	0.473
	(0.058)	(0.015)
The Child has Only indigenous Origins	0.86	0.57
	(0.048)	(0.015)
Factors That Proxy Family Background Characteristics of Parents (κ)		
Father has indigenous Origins	0.737	0.668
	(0.054)	(0.016)
Mother has indigenous Origins	1.000	0.814
	(0.000)	(0.015)
Origins Maternal Grandfather	0.753	0.714
	(0.021)	(0.016)
Origins Maternal Grandmother	0.737	0.625
	(0.054)	(0.016)
Origin Paternal Grandfather	0.702	0.556
	(0.053)	(0.016)
Origin Paternal Grandmother	0.912	0.675
	(0.047)	(0.016)
Whether Mother's Sibling Attended	0.737	0.069
	(0.039)	(0.006)

Variable	Mother Attended RS	Mother Did Not Attended RS
Measure of Parental Investment (I)		
Child Eats Breakfast Everyday	0.807	0.757
	(0.025)	(0.013)
Child Has Been to the Dentist in Past Year	0.702	0.785
	(0.041)	(0.012)
Child Eats Vegetables Everyday	0.351	0.444
	(0.038)	(0.016)
Breastfed	0.800	0.720
	(0.051)	(0.039)
Reads Everyday	0.386	0.496
	(0.041)	(0.015)
Measures of Child's Attitude toward Education		
Gets Along Very Well with Teachers	0.579	0.628
	(0.044)	(0.015)
Likes School Almost Always	0.596	0.623
	(0.043)	(0.015)
Measures of Parental Cognitive and Non-Cognitive Skills (θ_0^{CN})		
Mother Graduated High School	0.509	0.642
	(0.043)	(0.013)
The Number of Siblings the Child Has	3.421	2.597
	(0.155)	(0.056)
The Child Lives in a Two Parent Home	0.649	0.673
	(0.037)	(0.014)
They Live On-Reserve	0.368	0.239
	(0.033)	(0.009)

Variable	Mother Attended RS	Mother Did Not Attended RS
Child's Outcomes In School		
Has Received an Award for their Grades	0.719	0.699
	(0.039)	(0.014)
Has Received an Award for Something Else	0.702	0.754
	(0.047)	(0.013)
They have been Expended or Suspended	0.175	0.129
	(0.023)	(0.01)
They Have Repeated A Grade	0.228	0.155
	(0.027)	(0.009)
Child Health Outcomes		
ln(Birth Weight of Child)	8.102	8.13
	(0.023)	(0.006)
ln(Height (cm) of Child)	4.041	4.05
	(0.013)	(0.005)
ln(BMI of Child)	3.019	3.027
	(0.037)	(0.008)
Injured in the Past Year	0.123	0.167
	(0.018)	(0.011)
N	867	4072

Notes: The table reports means of each variable reported with the standard error below in parentheses.

Table 2: The Explanatory Power of Sibling Residential School Attendance

	Registered Indian Status of Child				Reported Only indigenous Origins			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
Mother Attended RS	0.436***	0.417***	0.341***	0.068	0.310***	0.297***	0.238***	0.049
	(0.054)	(0.053)	(0.062)	(0.081)	(0.047)	(0.045)	(0.054)	(0.081)
Gender of Child	-0.014	-0.014	0.005	0.001	0.012	0.019	0.043	0.040
	(0.026)	(0.026)	(0.028)	(0.028)	(0.029)	(0.028)	(0.031)	(0.030)
Age of Mother	0.003	0.004	0.002	0.004	-0.004	-0.004	-0.005	-0.004
	(0.006)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Age of Child	-0.010***	-0.009***	-0.001	-0.002	-0.009***	-0.009***	-0.005*	-0.007**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Latitude	0.025***	0.020***	0.012	0.017*	-0.006	0.001	-0.001	0.003
	(0.005)	(0.005)	(0.009)	(0.010)	(0.005)	(0.008)	(0.009)	(0.010)
Origins Maternal GF			0.206***	0.208***			0.175***	0.178***
			(0.036)	(0.037)			(0.052)	(0.051)
Origins Maternal GM			0.470***	0.460***			0.348***	0.330***
			(0.025)	(0.025)			(0.042)	(0.042)
Origin Paternal GF			0.313***	0.316***			0.179***	0.172***
			(0.032)	(0.033)			(0.051)	(0.050)
Mother's Sibling Attended				0.443***				0.311***
				(0.052)				(0.034)
Geographic Fixed Effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes

Notes: This table reports the marginal effects of each variable on the left either on the probability of the child having registered indian status or reporting only indigenous origins and the effect's robust standard error is given in parentheses. The label "RS" refers to residential school, "GF" to grandfather, and "GM" to grandmother. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of british columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 3: Measurements Used To Identify Latent Factors

Unobserved family characteristics (κ)	Parental Cognitive and Non-Cognitive Skills (θ_0^{CN})	Parental Investments (I)
Material Grandmother Ancestry	Main Income from Employment	Child Has Been to the Dentist in Past Year
Parental Grandmother Ancestry	Greater Than High School Graduation	Child Eats Vegetables Everyday
Material Grandfather Ancestry	Two Parent Household	Child Was Injured in the Past Year
Parental Grandfather Ancestry	Number of Children	Breast fed
Sibling Residential School Attendance	Live in dwelling in need of repair	ln(Birth Weight)
		Read Everyday

Child Schooling Attitudes (y_j, θ_0^{CN})	Child Schooling Outcomes (y_j, θ_0^{CN})	Child Health (θ_1^H)
Gets Along Very Well with Teachers	Has Received an Award for their Grades	ln(Height)
Likes School Almost Always	Has Received an Award for Something Else	ln(BMI)
	They have been Expended or Suspended	Physically Active

Table 4: Evidence on Parental Cognitive and Non-Cognitive Skills

	Dwelling in Need Of Repair		Two Parent Household		≥High School Degree		Employment Income		Number of Children	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Mother Attended RS	-0.072	0.021	-0.023	-0.023	-0.011	0.050	-0.008	0.067	0.730***	0.178
	(0.048)	(0.057)	(0.039)	(0.041)	(0.044)	(0.054)	(0.048)	(0.059)	(0.156)	(0.154)
Gender of Child	0.020	0.017	0.030	0.026	0.052*	0.050*	-0.003	-0.010	-0.033	0.005
	(0.029)	(0.028)	(0.025)	(0.025)	(0.028)	(0.028)	(0.027)	(0.027)	(0.090)	(0.087)
Age of Child	0.007	0.008	-0.008	-0.008	-0.012**	-0.012*	-0.009	-0.009	0.015	0.011
	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.020)	(0.020)
Age of Mother	0.004	0.002	0.006***	0.005**	0.013***	0.012***	0.001	0.000	0.022***	0.032***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)	(0.008)	(0.008)
Origins Maternal GF		0.005		-0.039		-0.052		-0.081*		0.429***
		(0.044)		(0.042)		(0.046)		(0.043)		(0.114)
Origins Maternal GM		-0.109***		-0.059*		-0.064*		-0.119***		0.540***
		(0.037)		(0.032)		(0.037)		(0.036)		(0.101)
Origin Paternal GF		-0.038		-0.091**		-0.019		0.005		0.502***
		(0.042)		(0.040)		(0.044)		(0.042)		(0.113)
Mother's Sibling Attended		-0.062		0.050*		-0.054		-0.052		0.476***
		(0.043)		(0.030)		(0.041)		(0.043)		(0.131)
Geographic FE & Latitude	Yes		Yes		Yes		Yes		Yes	

Notes: This table reports the marginal effects of each variable on the left on the dependent variable listed as the header for each row. The robust standard error of the marginal effect is given below in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The dependent variables are given as the header in each column. The dependent variable "employment income" is an indicator variable for whether the mother's main source of income was from employment. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of british columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 5: The Effect of Residential School on Investment in Children

	ln(Birth Weight)		Child Injuried		Breastfed		Been to Dentist		Eat Vegatables Every day		Read Every day	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Mother Attended RS	-0.017	-0.023	-0.047**	-0.046*	0.038	0.076**	-0.074*	-0.023	-0.065	0.042	-0.116**	-0.029
	(0.021)	(0.021)	(0.020)	(0.025)	(0.031)	(0.036)	(0.044)	(0.041)	(0.048)	(0.056)	(0.048)	(0.059)
Gender of Child	-0.047***	-0.046***	-0.053**	-0.047**	0.008	-0.007	0.059***	0.060***	0.070**	0.068**	0.109***	0.112***
	(0.012)	(0.012)	(0.021)	(0.020)	(0.025)	(0.024)	(0.022)	(0.021)	(0.028)	(0.028)	(0.028)	(0.029)
Age of Child	-0.000	-0.001	0.012**	0.012**	-0.005	-0.005	-0.007	-0.007	-0.008	-0.007	-0.041***	-0.042***
	(0.003)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)
Age of Mother	0.001	0.001	0.002	0.002	0.007***	0.005**	0.004**	0.003*	-0.001	-0.003	-0.003	-0.006**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)
Origins Maternal GF		0.018		-0.009		-0.034		0.011		0.008		-0.063
		(0.019)		(0.032)		(0.041)		(0.029)		(0.045)		(0.045)
Origins Maternal GM		0.021		-0.049*		-0.016		-0.062**		-0.168***		-0.081**
		(0.015)		(0.028)		(0.033)		(0.025)		(0.036)		(0.038)
Origin Paternal GF		0.001		0.031		-0.056		0.003		-0.076*		0.017
		(0.018)		(0.030)		(0.039)		(0.028)		(0.043)		(0.043)
Mother's Sibling Attended		-0.003		0.016		-0.005		-0.052		-0.080*		-0.040
		(0.019)		(0.029)		(0.100)		(0.037)		(0.042)		(0.045)
Geographic FE & Latitude	Yes		Yes		Yes		Yes		Yes		Yes	

Notes: This table reports the marginal effects of each independent variable listed on the left on the dependent variable listed in the first row of each column and its robust standard error in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The variable "child injured" is an indicator variable for whether the child was injured in the past year, the variable "been to the dentist" is an indicator for whether the child has been to the dentist in the past 12 months, and ""eat vegatables" is an indicator for whether the child eats vegatables everyday. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of british columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 6: The Impact of Parental Cognitive and Non-Cognitive Skills on Investment

	ln(Birth Weight)		Child Injured		Breastfed		Read Every Day		Eat Breakfast		Been to Dentist		Eat Vegatables	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Mother Attended RS	-0.023	-0.017	-0.044*	-0.052*	0.079**	0.062*	-0.028	-0.038	0.051	0.052	-0.027	-0.036	0.039	0.030
	(0.021)	(0.021)	(0.026)	(0.027)	(0.038)	(0.037)	(0.055)	(0.056)	(0.032)	(0.035)	(0.042)	(0.038)	(0.051)	(0.052)
Sibling Attended RS	-0.003	-0.004	0.013	0.026	-0.008	0.021	-0.035	-0.015	-0.035	-0.012	-0.051	-0.052	-0.078*	-0.031
	(0.019)	(0.019)	(0.028)	(0.025)	(0.036)	(0.032)	(0.041)	(0.042)	(0.032)	(0.033)	(0.037)	(0.034)	(0.040)	(0.039)
Origins Maternal GF	-0.046***	-0.045***	-0.014	0.045	-0.033	-0.020	0.104***	0.126***	-0.038*	-0.057***	0.059***	0.052**	0.064**	0.056**
	(0.012)	(0.012)	(0.034)	(0.034)	(0.040)	(0.047)	(0.027)	(0.025)	(0.021)	(0.022)	(0.021)	(0.021)	(0.027)	(0.025)
Origins Maternal GM	0.018	0.042**	-0.049*	-0.042	-0.015	0.001	-0.060	-0.022	-0.028	0.023	0.012	0.035	0.009	0.054
	(0.019)	(0.021)	(0.028)	(0.030)	(0.032)	(0.037)	(0.042)	(0.046)	(0.033)	(0.039)	(0.026)	(0.028)	(0.043)	(0.045)
Origin Paternal GF	0.021	0.026	0.038	-0.012	-0.054	-0.037	-0.076**	-0.045	0.009	0.052	-0.057**	-0.041	-0.164***	-0.147***
	(0.015)	(0.019)	(0.034)	(0.033)	(0.038)	(0.044)	(0.035)	(0.038)	(0.028)	(0.034)	(0.024)	(0.028)	(0.035)	(0.039)
Gender of Child	0.001	-0.021	-0.047**	-0.037*	-0.007	-0.008	0.016	0.039	-0.001	0.013	0.003	-0.010	-0.074*	-0.061
	(0.018)	(0.019)	(0.020)	(0.019)	(0.023)	(0.024)	(0.040)	(0.042)	(0.032)	(0.038)	(0.025)	(0.027)	(0.042)	(0.043)
Age of Child	-0.001	-0.001	0.012**	0.016***	-0.005	-0.007	-0.040***	-0.036***	-0.041***	-0.037***	-0.007	-0.006	-0.006	-0.001
	(0.003)	(0.003)	(0.006)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.006)	(0.006)
Age of Mother	0.001	-0.000	0.002	0.001	0.005**	0.002	-0.005**	-0.005**	-0.001	-0.001	0.003*	0.003*	-0.003	-0.004*
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
More than Grade 10		0.015		0.030		0.074*		0.036		0.007		0.048		-0.065*
		(0.015)		(0.024)		(0.040)		(0.041)		(0.032)		(0.035)		(0.038)
High School Graduate		0.026		0.043		0.157***		0.112**		-0.014		0.123***		-0.074*
		(0.017)		(0.028)		(0.044)		(0.044)		(0.035)		(0.038)		(0.043)
Some Training		0.065***		0.040		0.174***		0.189***		-0.067		0.182***		0.024
		(0.019)		(0.036)		(0.052)		(0.055)		(0.050)		(0.044)		(0.055)
Certificate		0.059***		0.084***		0.216***		0.105**		-0.002		0.154***		-0.042
		(0.018)		(0.032)		(0.048)		(0.050)		(0.042)		(0.040)		(0.050)
Some University		0.015		0.158**		0.143*		0.236***		-0.011		0.182***		0.101
		(0.026)		(0.070)		(0.087)		(0.072)		(0.065)		(0.053)		(0.070)
Bacholars Degree		0.114***		0.052		0.258***		0.196**		0.023		0.154**		-0.061
		(0.024)		(0.055)		(0.071)		(0.084)		(0.062)		(0.065)		(0.078)
$\geq$ Graduate Degree		0.081**		0.113		0.288***		0.206**		0.068		0.109		-0.029
		(0.036)		(0.104)		(0.084)		(0.102)		(0.080)		(0.098)		(0.109)
Number of Siblings		-0.000		0.001		0.002		0.001		-0.003		-0.008*		-0.002
		(0.001)		(0.003)		(0.004)		(0.004)		(0.003)		(0.004)		(0.004)
On-reserve		0.014		0.017		-0.011		-0.130***		-0.060***		-0.013		-0.116***
		(0.010)		(0.018)		(0.024)		(0.024)		(0.021)		(0.020)		(0.024)
Two Parent Household		-0.004		-0.012		0.003		0.055**		0.040*		-0.009		0.043
		(0.011)		(0.021)		(0.026)		(0.027)		(0.024)		(0.021)		(0.027)
Geographic FE & Latitude	Yes		Yes		Yes		Yes		Yes		Yes		Yes	

Notes: This table reports the marginal effects of each independent variable listed on the left on the dependent variable listed in the first row of each column and its robust standard error in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The variable "eat breakfast" is an indicator variable for whether the child eats breakfast everyday, the variable "been to the dentist" is an indicator for whether the child has been to the dentist in the past 12 months, and ""eat vegatables" is an indicator for whether the child eats vegatables everyday. The asterisks indicate the level of significance: * p<0.10, ** p<0.05, *** p<0.01.

Table 7: Children's Health Outcomes and the Effect of Mother's Residential School Attendance

	ln(BMI)		ln(Height)		Physically Active	
	(1)	(2)	(1)	(2)	(1)	(2)
Mother Attended RS	0.002	-0.071**	0.002	0.020*	0.123**	0.147***
	(0.038)	(0.035)	(0.010)	(0.011)	(0.049)	(0.055)
Gender of Child	-0.045***	-0.042***	-0.007	-0.009	-0.020	-0.016
	(0.014)	(0.014)	(0.006)	(0.006)	(0.027)	(0.023)
Age of Child	0.017***	0.016***	0.046***	0.046***	-0.002	-0.001
	(0.003)	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)
Age of Mother	0.001	0.002	-0.001	-0.001	0.005*	0.004
	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.002)
Origins Maternal GF		0.022		-0.014*		-0.109**
		(0.019)		(0.008)		(0.042)
Origins Maternal GM		0.041**		-0.011		-0.040
		(0.016)		(0.007)		(0.032)
Origin Paternal GF		0.017		-0.005		0.002
		(0.019)		(0.008)		(0.001)
Mother's Sibling Attended		0.068***		-0.014		-0.009
		(0.025)		(0.010)		(0.010)
Geographic FE & Latitude	Yes		Yes		Yes	

Notes: This table reports the marginal effects of each independent variable listed on the left on the dependent variable listed in the first row of each column and its robust standard error in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The variable "injured" is an indicator variable for whether the child was seriously injured in the past year, the variable "gets along - children" is an indicator for whether the child gets along with other children generally very well. The variable "gets along - parents" is an indicator for gets along very well with their parents. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of british columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 8: Children's Attitudes Toward Schooling and School Performance

	Attitudes				Schooling Performance					
	Get Along – Teachers		Likes School		Award for Grades		Award for Other		Suspended or Expelled	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Mother Attended RS	-0.086*	-0.146**	-0.036	-0.125**	0.014	-0.102*	-0.091*	-0.151**	0.058***	0.043*
	(0.052)	(0.059)	(0.048)	(0.055)	(0.041)	(0.052)	(0.047)	(0.063)	(0.020)	(0.023)
Gender of Child	0.140***	0.139***	0.147***	0.157***	0.078***	0.089***	-0.011	-0.006	-0.073***	-0.073***
	(0.027)	(0.027)	(0.027)	(0.026)	(0.025)	(0.025)	(0.024)	(0.023)	(0.014)	(0.014)
Age of Child	-0.036***	-0.036***	-0.040***	-0.040***	0.004	0.006	0.009	0.011*	0.034***	0.033***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.003)	(0.003)
Age of Mother	0.003	0.002	0.004	0.004*	-0.000	-0.001	0.001	-0.000	-0.003***	-0.003**
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)
Origins Maternal GF		-0.027		0.000		-0.003		-0.025		0.040**
		(0.043)		(0.044)		(0.040)		(0.036)		(0.020)
Origins Maternal GM		-0.028		0.000		-0.039		-0.079***		0.001
		(0.035)		(0.036)		(0.031)		(0.027)		(0.016)
Origin Paternal GF		0.030		0.053		0.046		0.049		-0.004
		(0.041)		(0.042)		(0.038)		(0.034)		(0.021)
Mother's Sibling Attended		0.085**		0.112***		0.168***		0.095***		-0.006
		(0.038)		(0.035)		(0.025)		(0.032)		(0.014)
Geographic FE & Latitude	Yes		Yes		Yes		Yes		Yes	

Notes: This table reports the marginal effects of each independent variable listed on the left on the dependent variable listed in the first row of each column and its robust standard error in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The variable "gets along - teachers" is an indicator for whether the child gets along with other children generally very well. The variable "likes school" is an indicator for whether the child likes school almost all of the time. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of British Columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 9: Reduced form Evidence on the Role of Parental Skills, Investment and Health In Children's Attitudes

	Get Along – Teachers			Likes School		
	(1)	(2)	(3)	(1)	(2)	(3)
Mother Attended RS	-0.135**	-0.087**	-0.088**	-0.114**	-0.138***	-0.142***
	(0.056)	(0.044)	(0.045)	(0.049)	(0.050)	(0.049)
Mother's Sibling Attended RS	0.082**	0.069**	0.077**	0.106***	0.100***	0.108***
	(0.038)	(0.033)	(0.033)	(0.035)	(0.034)	(0.034)
Origins Maternal GF	-0.025	-0.047	-0.048	0.003	-0.020	-0.023
	(0.042)	(0.043)	(0.044)	(0.042)	(0.044)	(0.045)
Origins Maternal GM	-0.025	-0.035	-0.030	0.003	-0.023	-0.015
	(0.034)	(0.038)	(0.037)	(0.034)	(0.037)	(0.038)
Origin Paternal GF	0.029	0.043	0.042	0.050	0.067	0.067
	(0.039)	(0.040)	(0.041)	(0.040)	(0.041)	(0.042)
Gender of Child	0.135***	0.097***	0.083***	0.151***	0.137***	0.126***
	(0.026)	(0.025)	(0.026)	(0.026)	(0.025)	(0.026)
Age of Child	-0.035***	-0.034***	-0.028***	-0.039***	-0.036***	-0.030***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Age of Mother	0.002	0.001	0.001	0.004*	0.005**	0.006**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Geographic FE and Latitude	Yes	Yes	Yes	Yes	Yes	Yes
κ	Yes	Yes	Yes	Yes	Yes	Yes
Parental Cognitive and Non-cognitive Skill Measures		Yes	Yes		Yes	Yes
On-Reserve Status		Yes	Yes			Yes
Parental Investment Measures			Yes			Yes
Health Measures			Yes			Yes

Notes: This table reports the marginal effects of each independent variable listed on the left on the dependent variable listed in the first row of each column and its robust standard error in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The variable "gets along - teachers" is an indicator for whether the child gets along with other children generally very well. The variable "likes school" is an indicator for whether the child likes school almost all of the time. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of British Columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

Table 10: Reduced form Evidence on the Role of Parental Skills, Investment and Health In Children's Schooling Outcomes

	Award for Grades			Award for Other			Suspended or Expelled		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Mother Attended RS	-0.087*	-0.103**	-0.099**	-0.142**	-0.096*	-0.092*	0.052**	0.046*	0.051**
	(0.045)	(0.043)	(0.042)	(0.057)	(0.049)	(0.048)	(0.024)	(0.026)	(0.026)
Mother's Sibling Attended RS	0.176***	0.181***	0.187***	0.107***	0.100***	0.103***	-0.001	-0.005	-0.009
	(0.030)	(0.030)	(0.029)	(0.039)	(0.036)	(0.035)	(0.019)	(0.020)	(0.021)
Origins Maternal GF	0.086***	0.095***	0.082***	-0.007	-0.018	-0.025	-0.088***	-0.088***	-0.087***
	(0.025)	(0.024)	(0.024)	(0.023)	(0.023)	(0.023)	(0.016)	(0.017)	(0.017)
Origins Maternal GM	0.000	-0.023	-0.031	-0.019	-0.029	-0.035	0.047*	0.037	0.036
	(0.040)	(0.040)	(0.039)	(0.034)	(0.042)	(0.041)	(0.026)	(0.029)	(0.029)
Origin Paternal GF	-0.039	-0.039	-0.022	-0.079***	-0.063*	-0.050	-0.009	-0.015	-0.010
	(0.031)	(0.036)	(0.035)	(0.028)	(0.034)	(0.033)	(0.020)	(0.025)	(0.026)
Gender of Child	0.043	0.035	0.038	0.042	0.051	0.056	0.001	0.010	0.012
	(0.037)	(0.039)	(0.038)	(0.032)	(0.038)	(0.037)	(0.026)	(0.030)	(0.030)
Age of Child	0.005	0.007	0.009	0.011*	0.013**	0.014**	0.042***	0.045***	0.040***
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.004)	(0.005)	(0.004)
Age of Mother	-0.001	-0.002	-0.002	-0.000	-0.001	-0.001	-0.004**	-0.003**	-0.004***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)
Geographic FE and Latitude	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
κ	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Parental Cognitive and Non-cognitive Skill Measures		Yes	Yes		Yes	Yes		Yes	Yes
On-Reserve Status			Yes			Yes			Yes
Parental Investment Measures			Yes			Yes			Yes
Health Measures			Yes			Yes			

Notes: This table reports the marginal effects of each independent variable listed on the left on the dependent variable listed in the first row of each column and its robust standard error in parentheses. The label "RS" refers to residential school, "GF" to grandfather, "GM" to grandmother and "FE" to fixed effects. The geographic fixed effects cluster provinces into northern and southern regions, with the exception of British Columbia were an additional fixed effect is specificed for the coastal region. The asterisks indicate the level of significance: * $p<0.10$, ** $p<0.05$, *** $p<0.01$.

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