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aboriginal policy studies Vol. 3, no. 1&2, 2014, pp. 5-28

This article can be found at: http://ejournals.library.ualberta.ca/index.php/aps/article/view/21701

ISSN: 1923-3299

Article DOI: http://dx.doi.org/10.5663/aps.v3i1-2.21701

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Aboriginal Affairs and Affaires autochtones et Northern Development Canada Développement du Nord Canada

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Abstract: Using a life-course perspective and data taken from the 2006 Aboriginal Peoples Survey (APS) Children and Youth supplement, this study applies a creative analytical approach using combined regression techniques and a two-way interaction effect between Aboriginal family structure (lone-parent families and coupled families) and household size to examine the effects on three dimensions of Aboriginal children's well-being. In all three regression models, household size had a noticeable effect in relation to different family structures (i.e., loneparent compared to coupled families) and on children's well-being outcomes, while controlling for other important social and economic factors such as age, gender of parent, and income. The most valuable finding in this study is that, regardless of whether a child resides in a loneparent family or a coupled family, the number of people living in the household has an effect on their well-being. In particular, the findings show that as household size increases, a child's engagement in social activities increases, their parent(s) perceive them to be better school performers, and the number of chronic health conditions they have decreases.

Introduction

Describing the outcomes of well-being for Aboriginal children of lone-parent families in Canada over the past decade reads like a story of ongoing paradox. One the one hand, empirical studies show that Aboriginal lone-parent families and their children typically experience lower social, economic, and health outcomes when compared to the children of coupled families and non-Aboriginal lone-parent families (Ambert 2006; Statistics Canada 2009; Newhouse and Peters 2001; Hull 2001; Costello 2002; Morissette and Ostrovsky 2007; Mann 2007; Luong 2008). Other empirical studies, meanwhile, have suggested that Aboriginal lone mothers, despite having lower physical and mental health than partnered women, can achieve higher levels of schooling. The studies also suggest that lone mothers can also begin to cope with their situation over time, and achieve happiness and health for themselves and their children equal to that experienced by partnered women (Beaudet and Perez 1999). The point is not to dispute previous findings or in any way minimize the social and economic challenges Aboriginal lone-parent families face, but rather to acknowledge that the story of the outcomes for Aboriginal lone-parent families and their children can be one of good news or bad news, depending on the data source and the extent to which researchers interpret and analyze these data.

A majority of these research findings are often drawn from two of the most comprehensive information sources available for Canadian Aboriginal people—the Aboriginal Peoples Survey and the Census of Population. While both survey tools are incredibly important

aboriginal policy studies, vol. 3, no. 1&2, 2014 www.ualberta.ca/nativestudies/aps/ ISSN: 1923-3299 data sources and provide reliable and up-to-date information on the Aboriginal population, they are not without limitations. First, the definitions and concepts used to generate data based on these conceptual frameworks support a western notion of family, which does not adequately reflect varying degrees of family diversity and lived realities that are common among many Aboriginal communities. These conceptual frameworks support standardized definitions that dichotomize lone-parent families as belonging to either an economic or census family unit, and while other people living in the household are often considered "part of the family" and play an important role in family function, these household members are excluded from the lone-parent definition (Statistics Canada 2009, 2011). These conceptual frameworks create a particular view by applying fixed concepts such as "lone-parent families: terms which are not necessarily accurate, but are further conceptualized as sharing a common collective identity, irrespective of diversity (Bauman 1997; Bengtson 2001, 2004).

The two survey tools are also limited in relation to the issue of under-coverage. Undercoverage is important to consider especially when interpreting and analyzing Aboriginal data based on small sample sizes and the extent of missing data. It can be exceedingly difficult to delineate an accurate portrait of the Aboriginal lone-parent population living in urban centers when one accounts for the high degree of mobility among Aboriginal people and missing data.

Standardized collection tools (including, data, concepts, and definitions) are not anchored in Aboriginal ways of understanding and defining family relations, and the data does not readily capture the ways in which additional people in the household (such as extended family members) contribute to the overall social and economic functioning of the family unit and children's well-being. When we consider the notion that these data shape our knowledge and understanding of Aboriginal lone-parent families, it raises valid concerns. And, if these definitions are not accurate, it stands to reason that our interpretations may be poorly understood. The problem of proper definitions poses considerable challenges for researchers as they work to apply concepts in culturally appropriate and meaningful ways when trying to examine the effects of family structure on Aboriginal children's well-being.

The intent of this study is to use a creative analytical approach through a two-way interaction effect between Aboriginal family structure (lone-parent families and coupled families) and household size, while controlling for other important socio-economic factors, to examine the effects on three dimensions of children's well-being: engagement in social activities, number of chronic health conditions, and overall school performance.¹ A life-course perspective is a useful theoretical framework to support this research, when we consider the idea that lives are linked and, therefore, that all members of a household can form a vital social network system comprised of shared responsibility, roles, and common

¹ While the term "Aboriginal" generally applies to First Nation, Metis, and Inuit people, based on the limitations of the APS survey population, the results of the present analysis only pertain to First Nations and Metis Children aged six to fourteen years living in urban centers; a separate survey for the North to cover the Inuit population was conducted and is not part of the APS PUMP file used in this analysis.

values that make significant contributions effecting Aboriginal children's well-being (Beavon et al. 2009; Cooke 2009; Cooke et al. 2004; Chretien 2010).

Traditional Lifestyles and Aboriginal Families

To better understand contemporary Aboriginal lone-parent family structure and the well-being of children, we need to acknowledge the impacts of colonialism on contemporary Aboriginal family structure. Prior to European contact, Aboriginal families were comprised of social networks of related people called kinship, in which an individual's identity, rights, and responsibilities were defined and given meaning by the entire community. Historically, these social networks were also the basis of Aboriginal economies. Membership in family groups determined ownership of territories, access to knowledge, and defined local systems of production and consumption. Honour and respect were cultural values that were integral to a way of life and essential components of traditional teachings within First Nations society. While women were viewed as the holders of special and sacred gifts from the Creator to act as life-givers and caretakers, children were regarded as the greatest of all gifts from the Creator (Bernacki 2009; Blackstock 2009; Fleming and Ledogar 2008; Harris et al. 2007). Social equality among men, women, and children in pre-contact times was also an important aspect of the teachings of the Creator; all three were seen to complement one another. Balance was achieved through mutual effort and support by all members of the community, and through respect and cooperation (National Aboriginal Circle 2006).

Following the acceptance of the Davin Report in 1879, the Government of Canada began building church-run residential schools across the country in an effort to assimilate Aboriginal children into the dominant culture. The purpose of the residential schools was to eliminate all aspects of Aboriginal culture. Students had their hair cut short, were dressed in uniforms, and had their days strictly regimented by timetables. Boys and girls were kept separate and even siblings rarely interacted, further weakening family ties. In addition to the physical abuse many children suffered, a significant number of Aboriginal students were also victims of sexual assault. Various forms of abuse, along with overcrowding, poor sanitation, and severely inadequate food and health care, resulted in a shockingly high death toll. In 1907, government medical inspector P.H. Bryce reported that 24 percent of previously healthy Aboriginal children across Canada were dying in residential schools (Roberts 2006). The impact of colonialism on present-day family relations, structure, and the well-being of children is evident, and defining Aboriginal lone-parent families can be challenging as a result.

In 2006, approximately one in four Aboriginal families were headed by lone parents: the highest Aboriginal lone-parent family figure recorded by the Census in the last seventy-five years (Statistics Canada 2009). The pathways to Aboriginal lone-parenthood are not linear and often include a complex system of interrelated factors such as the legacy of colonialism, widowhood, separation, divorce or childbirth outside marriage, and incarceration, as well as the changing dynamic of an individual's family status over time (Hull 2001; Hull 2006). High fertility rates among Aboriginal women have often been cited as one of the

main factors contributing to lone parenting. Since 1986, for example, the fertility rates of Aboriginal teenage girls under 20 years of age have remained high when compared to the rates of other Canadian teenagers. One study has shown that the fertility rate for First Nations girls under the age of 15 is estimated to be approximately 18 times higher than that of other Canadians (Guimond and Robitaille 2008). One perspective on this issue is that early motherhood can increase the vulnerability of Aboriginal women who are already at a socio-economic disadvantage based on a variety of factors such as age, place of residence (living on or off-reserve), educational attainment, and income and employment. Therefore, having children while in their teens can increase the social and economic challenges of young Aboriginal women, resulting in increased dependence on income assistance, levels of low income and poverty, academic under-achievement, reduced employability, and loneparenthood (Guimond and Robitaille 2008; Luong 2008). Another perspective may be that until we fully understand the role of extended family in the care and nurturing of children, and how Aboriginal lone-parent families transition into alternate family formations, our views on teen fertility could be situated in dominant culture and, therefore, be biased and speculative.

There appears to be a move away from Aboriginal teachings, and a shift in Aboriginal family composition and structure, which can have an impact on various aspects of children's well-being. A great deal of Canadian research has documented the vulnerability of lone-parent families and that they are at a greater risk of experiencing poverty and its associated substandard living conditions (Scott 1998; Morissette and Ostrovsky 2007; Perez and Beaudet 1999). Other research shows that the relationship between lone parents and their children can be more intimate and nurturing than in two-parent families, as the lone parents and children tend to rely more on each other. However, there may also be greater levels of conflict between lone parents and their children because there is no support for the parent when trying to enforce discipline or control (Walker and Hennig 1997). Lone parents in Canada with low incomes are believed to experience allostatic load² and stress-related health issues, particularly lone mothers who earn lower incomes than lone fathers (Johnsen 2007). Generally speaking, lone fathers are likely to be healthier and have satisfying relationships when they have social supports (Janzen, Green, and Muhajarine 2006).

Aboriginal families residing off-reserve are more likely than other Canadian households to be headed by a female lone parent, tend to live in cities and towns, and are in serious need of core housing (Canadian Mortgage and Housing Corporation 1997). Social assistance is cited as the number one factor in the reduction of income stability of lone mothers, and employment insurance is the second most important factor (Morissette and Ostrovsky 2007). Another determining factor for lone mothers' income levels are their lower levels of

² The term "allostatic load" was coined by Bruce McEwen (2000) and refers to the physiological costs of chronic exposure to the neural or neuroendocrine stress response. It is used to explain how frequent activation of the body's stress response, an essential tool for managing acute threats, can in fact damage the body in the long run.

educational attainment (Perez and Beaudet 1999). Aboriginal lone mothers are especially vulnerable to low standards of living, and have high unemployment rates in comparison to non-Aboriginal lone mothers (22% to less than 11% in 2006). Not only are lone-parent families more common but Aboriginal children, and girls in particular, are more likely to reside in care. One in ten Aboriginal children are in foster care and group homes, compared to one in 200 non-Aboriginal children (Totten 2009). The main reason children are brought into the system is neglect, often brought on by severe poverty, substance abuse by parents, and poor housing (Trocmé 2005). Totten argues that moving children into care replicates Canada's legacy of residential schools; children in care face much higher rates of being victimized by bullying, sexual and physical abuse, attachment disorders, and feelings of rejection and shame (Totten 2009).

Redefining Aboriginal Well-Being

Current research trends have demonstrated a shift in how Aboriginal well-being is being conceptualized. Well-being is no longer viewed as a matter of health-related issues, but rather as the by-product of a large number of economic and social factors that influence an individual throughout their life-course. These determinants of well-being for Aboriginal people operate on a number of levels from the individual to the state, and include such factors as early childhood development, education, employment, job security, social inclusion, food security, health services, housing, income, social support, physical environments, working conditions, personal health practices, and coping skills and gender (Unicef Canada 2003). A statistical profile on the health of Aboriginal populations in Canada demonstrates increases in exposure to poor and polluted water supplies; inadequate dwellings; increased poverty-level income; low levels of literacy; the presence of drugs, alcohol, and firearms; fractured cultural, economic, and political environments; exposure to violence; and restricted access to the medical system (McNeil 2008).

Research has consistently shown that higher levels of education contribute to financial security through higher earnings, lower job loss risk, and higher income in retirement. There is a general awareness that educational attainment and completion outcomes achieved by Aboriginal peoples as a population are lower when compared to those achieved by non-Aboriginal Canadians. Studies have demonstrated that "dropping out" is not a reflection of a single event but, rather, highly influenced by a complex series of events and conditions that begin in early childhood and are sustained thoroughout one's life-course. However, what the data also shows is that Aboriginal women; who face greater levels of gendered racism, who hold greater responsibility for child rearing, who earn lower incomes, and who have a greater exposure to violence and other social ills; still achieve slightly better outcomes in terms of secondary and post-secondary enrollment and graduation rates than non-Aboriginal men. What this points to is that Aboriginal women are able to overcome many social and economic barriers. It also suggests that educational opportunities must continue to exist for Aboriginal children and adults, ranging from head start programs to support in obtaining advanced university degrees (Aboriginal Affairs Working Group 2010).

Success in education and training is also related to the conditions experienced by the individual related to housing, health, and the ability to meet basic physical and social needs. Any measures implemented to improve educational outcomes must address the linkages between such outcomes and the basic human needs of the individual. Research has shown that children cannot effectively learn if their environment is deficient in such key areas as housing, nutrition, health, and general welfare. Financial security refers to a situation in which income is sufficient to meet the basic needs of a family or individual. Having a stable and well-paying job contributes to financial security. Yet, what we can observe today is that more Aboriginal youth continue to live in poverty than before. Within urban centers with populations fewer than 100,000, approximately 43 percent of Aboriginal children under the age of 15 were found to be living in low-income families (compared to the non-Aboriginal average of 17.4%). Aboriginal women face additional hardships and have lower income averages when compared to Aboriginal men, as well as the incomes of non-Aboriginal women and men (Native Women's Association of Canada 2007). Aboriginal women were also twice as likely to be unemployed compared to their non-Aboriginal counterparts (Statistics Canada 2009). The issue that arises is that when there are fewer employment options, and they are confounded by a legacy of colonialism, Aboriginal children frequently turn to drugs and prostitution as a means of physical and emotional survival (Sikka 2009).

In urban centers, Aboriginal youth predominantly reside in low-income housing (Ruttan et al. 2012). These youth are also more likely to experience core housing needs (defined by three consumption standards: affordability, quality, and adequacy) than non-Aboriginal youth. Among children and youth experiencing core housing needs, research findings show that the vast majority had problems associated with affordability; challenges of housing adequacy (e.g., overcrowding); low housing quality and living in homes in need of major repairs (Aboriginal Affairs Working Group 2010; O'Donnell and Wallace 2011).

Hypotheses

It is proposed that family structure, in combination with household size and various social and economic factors, affect Aboriginal children's well-being. Previous research studies have suggested that Aboriginal children living in lone-parent families will tend to have poorer social, health-related, and educational outcomes when compared to Aboriginal children residing in coupled families (Scott 1998; Morissette and Ostrovsky 2007; Perez and Beaudet 1999). A life course perspective offers insight into understanding the importance of how additional people living in a lone-parent family household can form a vital social network system comprised of shared responsibility, roles, and common values that have significant effects on Aboriginal children's well-being.

Hypothesis 1—*Total Household Income*

It is proposed that total household income and number of persons with income in the household will be inversely related to the social, educational, and health outcomes of the child. Specifically, it is proposed that an Aboriginal child who resides in a family with lower total household income levels will have lower school performance, a higher incidence of chronic health conditions, and lower levels of social engagement when compared to a child who resides in a household with higher levels of total household income. Based on previous research findings, it has been shown that income is a strong predictor of well-being outcomes, such that lower income levels are associated with lower social, educational, and health outcomes for Aboriginal children.

Hypothesis 2—Family Structure

It is proposed that an Aboriginal child who resides in a lone-parent family will have lower school performance, a higher incidence of chronic health conditions, and lower levels of social engagement, when compared to a child who resides in a coupled family arrangement. Previous research has shown that lone-parent families typically experience lower levels of personal and household income when compared to couple families, and that they are more likely to live in poverty. In turn, children of lone-parent families tend to have poorer educational success, are less likely to be involved to extra-curricular activities, have more health conditions, and tend to have poorer educational outcomes when compared to those children who reside in coupled families.

Hypothesis 3—*Aboriginal Identity*

It is proposed that a First Nations child will have lower school performance, a higher incidence of chronic health conditions and lower levels of social engagement when compared to a Métis child. Based on previous research findings, it has been shown that First Nations children tend to have lower social, educational, and health outcomes when compared to Métis Aboriginal children.

Hypothesis 4—Household Size

It is proposed that an Aboriginal child who resides in a larger household will have lower school performance, a higher incidence of chronic health conditions, and lower levels of social engagement when compared to a child who resides in a smaller household. Based on previous research findings, it has been shown that large household sizes often result in issues of overcrowding and associated social and health risks which, in turn, have been shown to have a negative relationship with children's social, educational, and health outcomes.

Hypothesis 5—Housing Conditions

It is proposed that an Aboriginal child who resides in house in need of repairs will have lower school performance, a higher incidence of chronic health conditions, and lower levels of social engagement when compared to a child who resides in a household that is not in need of repair. Research has shown that poor housing conditions are linked with a variety of factors, including issues of low income, overcrowding, and associated social and

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health risks, which in turn have been shown to have a negative relationship with children's social, educational, and health outcomes.

Hypothesis 6—Age of Parent

It is proposed that an Aboriginal child whose parent is younger will have lower school performance, a higher incidence of chronic health conditions, and lower levels of social engagement when compared to a child of an older parent. Based on previous research findings, it has been shown that young parents, and teens in particular (less than 20 years of age) tend to have issues with either securing employment or attending school, have lower incomes, and move residences more frequently, which in turn has been shown to have a negative relationship with children's social, educational, and health outcomes.

Hypothesis 7—Gender of Parent

It is proposed that an Aboriginal child whose parent (the Person Most Knowledgeable, or PMK) is female will have lower levels of social engagement when compared to a child whose parent is male. Research has consistently shown that the gender of the parent plays a role in effecting children's social, educational, and health outcomes. Often women are engaged in numerous paid and unpaid activities, and may not have the time and resources to spend taking their child to social activities when compared to parents who are male.

FIGURE 1: Path Diagram of Factors Effecting Model 1 — Chronic Health Conditions, Model 2-School Performance and 3-Social Engagement of First Nations and Métis Children, living Off-reserve



Data and Methods

Sample

The data used in this analysis was drawn from the 2006 Aboriginal Peoples Survey, and specifically from the "children and youth aged 6–14 years" component, Public Use Micro data File (PUMF). The target population for the survey is composed of 13,328 respondents, which excluded people living in Indian settlements or on reserve. The 2006 Aboriginal Peoples Survey was conducted by Statistics Canada to collect data on the social, educational, health, and general lifestyles of off-reserve First Nations and Métis children aged six to fourteen years, living in off-reserve urban, rural, and northern locations across Canada.³

Measures

A total of three separate regression models were developed for analysis in this study.⁴ Model 1—Chronic Health Conditions (Multinomial Logistic Regression); Model 2— School Performance (Ordinal Logistic Regression); and Model 3—Social Engagement (OLS Regression). A total of nine independent variables have been employed in the present study in order to predict the various social, health, and educational outcomes among First Nations and Métis school-aged children residing off-reserve across Canada. While several interaction terms were created in each of the models, the only interaction terms that proved to be statistically significant were family structure and household size. The approach used for variable construction in each of the regression models is as follows.

Model Specifications

In order to maintain robust regression models, a state-of-the-art multiple imputation technique, referred to as the Markov Chain Monte Carlo method, was applied to solve for incomplete data.

Model 1⁵

An multinomial logistic (mlogit) regression was used to examine the effect of Aboriginal identity (First Nations versus Métis), sex of the parent, age of the parent, education level

4 All of the not stated categories (missing values) were imputed using the MCMC Multiple Imputation procedure for each of the independent variables used in this analysis.

5 An interaction term was created to determine if there was a relationship between household size and family structure—i.e., lone-parent family and couple family—and the effects in all three separate models on each of the separate dependent variables.

³ It should be noted that the "APS, Children, and Youth" component collected information about the child from their parent/guardian or the person most knowledgeable (PMK). In the majority of cases, this person was a parent of the child, but could have also been a grandparent, foster parent, or other relative, and it is important to recognize that this APS survey data are based on the "perceptions" of the PMK who responded on behalf of their child. For the purpose of this analysis, the PMK will refer to the child's parent.

of the parent, total household income, family structure (lone-parent family versus couple family), total number of adults living in the household, and the try of household repairs (none, minor, and major) on the child's incidence of chronic health conditions. Separate models were generated to account for the interaction effect between family structure and household size on the predicted health outcomes.

Model 2

An ordinal logistic (ologit) regression was used to examine the effect of Aboriginal identity (First Nations versus Métis), sex of the parent, age of the parent, education level of the parent, total household income, family structure (lone-parent family versus couple family), total number of adults living in the household, and the try of household repairs (none, minor, and major) on the child's perceived school performance by the parent. Separate models were generated to account for the interaction effect between family structure and household size on school performance.

Model 3

An Ordinary Least Squares (OLS) regression was used to examine the effect of Aboriginal identity (First Nations versus Métis), sex of the parent, age of the parent, education level of the parent, total household income, family structure (lone-parent family versus couple family), total number of adults living in the household, and the try of household repairs (none, minor, and major) on the incidence of the child's level of social engagement. Separate models were generated to account for the interaction effect of family structure and household size on the predicted social outcomes.

Results

The sample size of the target population for the APS was 13,238 Aboriginal people living off-reserve. The sample was fairly evenly divided between First Nations people (38%) and Métis (32%), while 68 percent were in a couple family as compared to 31 percent in lone-parent family. Table 1 shows the number of imputed cases (5 MI sets) or each variable used in each of the three regression models used in this analysis. From the table we see that the highest value is 13.4 percent, for both Total Household Income and also the number of adults with income living in the household. Those five multiple imputed data sets were drawn from 500 Markov Chain Monte Carlo (MCMC) iterations, with a burn-in period of 100 iterations. Although the dependent variables were used to aid in the MI process, it should be noted that imputed values for all three of the dependent variables were not actually used in the separate regression models; the sample size for each model in the analysis was reduced from 13,328 to 11,297 respondents. Multiple Imputation (MI) is a technique that enables researchers to obtain value information by imputing missing data that would have otherwise been lost through LISTWISE deletion techniques.

Independent Variables	No. Observations	Missing (Imputed Data)	Total	Percentage
Family Structure	11,172	125	11,297	1.1%
Age of Parent	10,961	336	11,297	3.0%
Sex of Parent	11,058	239	11,297	2.1%
Parents Education Level	11,064	233	11,297	2.1%
Household Size	11,160	137	11,297	1.2%
Total Household Income	9,785	1,512	11,297	13.4%
House Repairs	11,267	30	11,297	0.3%
No. Persons with Income	9,785	1,512	11,297	13.4%

TABLE 1: Imputed Observations

The results from Table 2⁶ display the expected probabilities of the child's incidence of chronic health conditions, according to family structure and household size. The probabilities show that, for both lone-parent and couple families, a child is more likely to have "no chronic health conditions" as household size increases.⁷ However, this is particularly the case for a child who resides in a lone-parent family; here we see that the child has a 57 percent likelihood of not having a chronic health condition when seven or more people reside in the house, as compared to a child living in a coupled family with the same number of people living in the home. A similar observation can be made when we examine a child with two chronic health conditions. There results show that, as household size increases (seven or more people), we can expect that a child is less likely to have two or more health conditions compared to when the household size is smaller (as three people.) Figure 2 displays the expected probabilities outlined in Table 2. From the display, we can readily observe that the probability of having no chronic health conditions is higher for a

⁶ For ease of interpretation, the logged odd values produced in the regression mlogit model were converted to odds and also expected probabilities using MS Excel.

⁷ Correlation matrices were generated using the pre-MI data and show that multi-*collinearity* does not exist between the selected exogenous variables used in the Model 3-Social Engagement. The strongest relationship was between family structure and number of persons with income in the household (r=0.5918) that all of the variables appear to have a moderately positive relationship (ranging between 0.01 and 0.07) with social engagement with the exception of Aboriginal identity, which suggests that First Nations children are involved in more social activities when compared to Métis children. The correlation matrix between the selected exogenous variables used in Model 2-Chronic Health Conditions and Model 3-School Performance. The results showed that there was a moderately positive relationship between age, parent's education, and house repairs and chronic health conditions. Meanwhile, moderately positive relationships exist between age, household size and household repairs, and school performance.

child residing in a lone-parent family with a large household as compared to a child of a couple family with the same number of people living in the home. In addition, we also see that having more people living in the house reduces the probability that a child will have multiple health conditions specifically for those of lone-parent families, compared to a child who resides in a coupled family with an equally large number of people living in the house.

TABLE 2: Expected Probabilities of Chronic Health Conditions with a 2-Way	/ Interaction
by Family Structure & Household Size	

		Household Size		
		3 people	5 people	7 people
	1. Lone Parent Family	45.3%	51.1%	56.6%
No Chronic Health Conditions	2. Couple Family	48.5%	51.0%	53.1%
	1. Lone Parent Family	26.4%	25.8%	24.7%
One Chronic Health Condition	2. Couple Family	27.5%	24.8%	22.1%
	1. Lone Parent Family	15.1%	12.5%	10.1%
Two Chronic Health Conditions	2. Couple Family	14.0%	11.9%	10.0%
Three or More Chronic Health	1. Lone Parent Family	13.2%	10.6%	8.5%
Conditions	2. Couple Family	10.1%	12.3%	14.9%





The results from Table 3 display the expected probabilities of the child's school performance according to family structure and household size. We see that, within a couple family, there is much more variation in the perception that their child is performing well at school when compared to lone-parent families. In essence, what we can observe from these findings is that in couple families, as household size increases, there is a higher probability that the parent thinks their child is doing better in school. For example, there is a 33 percent probability that a parent thinks their child is a high school performer (doing very well) when only three people reside in the household, as compared to 41 percent when the household contains seven or more people. The results further show that, within lone-parent families, there is little if any variation between the effect of household size and the parent's perception of their child's school performance. However, when we examine the difference between parental perceptions of a child's educational performance between lone-parent families and couple families, we see that, on average, lone parent think that their child is doing better in school than do parents in couple families. Figure 3 displays the expected probabilities outlined in Table 3. From the display, we can readily observe that the probability of thinking that a child is doing well in school is generally higher for lone parents when compared to couple families, but household size has an effect on a parent's perception of school performance within couple families.

Parent's Assessment of Child's Educational Performance based on		Household Size			
	Report Card	3 people	5 people	7 people	
	1. Lone Parent	41.3%	41.1%	41.0%	
Very Well	2. Couple	32.8%	36.6%	40.6%	
	1. Lone Parent	27.0%	27.0%	27.0%	
Well	2. Couple	27.1%	27.2%	27.0%	
	1. Lone Parent	25.7%	25.8%	25.9%	
Average	2. Couple	31.7%	28.9%	26.2%	
	1. Lone Parent	6.1%	6.1%	6.1%	
Poor	2. Couple	8.5%	7.3%	6.2%	

TABLE 3: Expected Probabilities	of Educational Performance with a 2-Way Interaction by
Family	v Structure & Household Size



FIGURE 3: Expected Probabilities of Educational Performance with a 2-Way Interaction by Family Structure & Household Size

Table 4 presents the results of the Model 3 OLS regression, using the MCMC multiple imputation method to account for the missing data. The model examines the effects of selected exogenous variables on the child's level of engagement in social activities. From the table, we see that the model F-test value is 11.01, and is statistically significant at P<0.0001. The results indicate that Aboriginal identity, age of the parent, sex of the parent, household size (number of persons living in the house), and the number of adults with income living in the house are all statistically significant in the model. There is a negative relationship between Aboriginal identity and social engagement, which suggests that a First Nations child is more active in various social and extra-curricular activities compared to a Métis child. We also see that there are positive relationships between age of the parent, sex of the parent, household size, and the number of adults with income living in the household and social engagement. This suggests that, as the parent's age increases, we can expect the child to be more involved in social activities. Similarly, fathers tend to have a child that is more socially active when compared to mothers. In addition, as household size increases along with the number of people with income who live in the household, we see that the child's level of social engagement increases. The results further show that the strongest predictor of increased levels of a social engagement for a child is when the PMK parent is male (b=0.311) and also when there are more adults with income living in the house (b=0.263).

Dependent Variable: Social Engagement (6-24)	
Independent Variables	
Aboriginal identity (Mátis)	-0.197**
Aboliginal identity (metis)	(.071)
Family Structure (Counte)	0.103
	(.098)
Parent's Age	0.013**
	(.004)
Sex of Parent (Male)	0.311****
	(.085)
Parent's Education Level	0.197****
	(.031)
Household Size	0.072*
	(0.029)
Total Household Income	-0.020
	(.025)
Household Repairs (No Repairs)	
Minor Repairs	-0.040
	(.077)
Major Repairs	0.198
	(.102)
Number of People with Income	0.263**
	(.094)
	11 601
CONSTANT	(090)
Model F-Test	11 01****
d f	11
N observations	8852
N of imputations	5
Figures shown are beta coefficients. Figures in particular terms i	renthesis are standard errors. ****p<.0001,

TABLE 4: Results Of OLS Regression

Discussion

This analysis showed that there are several social factors that have an effect on predicting the level of social engagement, the number of chronic health conditions, and overall school performance of both First Nations and Métis children. The results of the social engagement model showed that Aboriginal identity (First Nations and Métis), age of the parent, parent's gender, household size (number of persons living in the house), and the number of adults with income living in the house affect the child's level of social engagement. It was interesting to observe that a First Nations child tends to be more active

in various social and extra-curricular activities when compared to a Métis child, and that a child of older parents is more involved in various social activities. Similarly, fathers tend to have a child that is more socially active when compared to those of mothers, which may be attributed to the notion that mothers are often preoccupied and tend to devote more time to both paid and unpaid work (including day-to-day family-related activities, such as cooking, cleaning, and laundry), which reduces the time they may have to participate in children's extracurricular and social activities.

The results from the health model examined the expected probabilities of the child's incidence of chronic health conditions, while testing for an interaction effect between family structure and household size. It was interesting to observe that for both lone-parent and couple families, a child is more likely to have "no chronic health conditions" as household size increases. However, this was especially the case for a child who resided in a lone-parent family. For example, we determined that a child had a 57 percent likelihood of not having a chronic health condition when seven or more people resided in the house, as compared to a child living in a couple family with the same number of people living in the home. On the contrary, a child living in a lone- parent family with three or more chronic health conditions, we see that the more people living in the household there is a much lower probability (9%) that the child will have a multiple health conditions when compared to a child residing in a couple family with additional household members (15%).

The results from the school performance model indicated that, within a couple family, there is much more variation in the perception that their child is performing well at school when compared to lone-parent families. In essence, what we can infer is that, for a child in a couple family, there is a higher probability that their parent thinks the child is doing better in school as household size increases. The results further showed that, within lone-parent families, there is little if any variation between the effect of household size and the parent's perception of their child's school performance. However, when we examine the difference between parental perceptions of their child's educational performance between lone-parent families and couple families, we see that, on average, lone parents think that their child is doing better in school than do parents in couple families.

Research has shown that lone-parent families with pre-school and school-aged children have different needs, as well as a host of economic and social pressures when compared to families with older children, and even more so when compared to families without children. High costs of housing, low wages, irregular child support, and caring for young children often results in lone parents, and especially lone mothers, living in low income, and poverty (Statistics Canada 2009; Ambert 2006; Newhouse and Peters 2001). Several research studies have supported the viewpoint that early motherhood can increase the vulnerability of First Nations women who are already at a socio-economic disadvantage based on a variety of factors such as age, place of residence (living on- or off-reserve), educational attainment, and income and employment. Yet, the findings of this study are somewhat contrary to these published findings in the area of social factors affecting Aboriginal children's educational, social, and health outcomes in relation to the concept of "family." The most valuable

finding in the analysis presented here is related to the effect of household size and the extent to which it interacts with different family formations; i.e., lone-parent compared to couple families; to have a significant effect on children's outcomes. With this in mind, it is reasonable to suggest that as household size increases, along with the number of people with income who live in the household, we see that the child's level of social engagement increases. This makes intuitive sense when we remember that socialization is most critical for young children and, therefore, the more people living within the family household, and especially those with sources of income, the more likely the child is to participate in, and also be able financially to be involved in, various social activities. In addition, we see that household size has an effect on a child's health outcomes such that having more people living in the house reduces the probability that a child will have multiple health conditions, specifically for those of lone-parent families, compared to a child who resides in a couple family with an equally large number of people living in the house.

Conclusion

Research has consistently shown that Aboriginal families in Canada are different than non-Aboriginal families in terms of marriage patterns, living arrangements, number of people living within the household, and overall family structure. When we consider household size we see that the census notion of family⁸—that all members live in the same dwelling—is not necessarily reflective of Aboriginal lone-parent family organization and structure. This is not to suggest that this concept of family has no meaning for Aboriginal peoples. Rather, Aboriginal lone-parent families often extend a common residence and people are related by marriage, birth, and a shared history that transcends standard definitions and geographic boundaries. Among Aboriginal lone-parent families, there is an increasing heterogeneity of family forms, and these relationships extend beyond biological or conjugal boundaries in such a way that family structures and relationships should be redefined to include both "assigned" and "created" kinship systems (Bengtson 2001). For Aboriginal families, "family" has a lot more to do with the larger community and multigenerational relationships that still place the family at the heart of Aboriginal culture and society (Bengtson et al. 2004; Bengtson 2001; Bernacki 2009; Blackstock 2009).

The concept of well-being is multi-faceted: it can be measured in different ways, and can mean different things to different people at different times. For some, well-being may mean better health, more income, and job satisfaction, while to others it may be assessed in the context of the real cost of transportation, daycare, and adequate housing needs. In order to provide a more holistic measure of well-being of Aboriginal children living off-

⁸ A married couple and the children, if any, of either or both spouses; a couple living common-law and the children, if any, of either or both partners; or, a lone-parent of any marital status with at least one child living in the same dwelling and that child or those children. All members of a particular census family live in the same dwelling. A couple may be of opposite or same sex. Children may be children by birth, marriage, or adoption, regardless of their age or marital status as long as they live in the dwelling and do not have their own spouse or child living in the dwelling (Statistics Canada 2011).

reserve, this study examined and assessed a child's level social engagement, number of chronic health conditions, and overall school performance. The 2006 Aboriginal People's Survey (APS) is a measurement tools that provides a wealth of data related to the socioeconomic, physical, and mental health of Aboriginal children in Canada, but does pose limitations in that it does not capture all dimensions of well-being for First Nations and Métis children. The three main indicators of well-being used in this analysis is by no means exhaustive, and while some of these indicators are easy to measure, others are seemingly more complicated and are also subject to change over time. However, recognizing that an individual's situation can change over time provides support for applying a life-course perspective to understanding and measuring well-being. Choices (e.g., to attend school) and significant involvement in social events and groups (such as competitive sport) can alter the course of a child's life, and ultimately their sense of well-being. In this way, well-being is not a static phenomenon but changes over time based on a variety of interrelated life events.

A life-course perspective provides a solid theoretical framework that can be used to better understand the many aspects of a child's well-being within the Aboriginal community, and also examine the importance and role of family and how this serves to impact overall well-being. Understanding how these levels are interlinked will facilitate a more holistic and comprehensive approach to examining, assessing, and measuring indictors of wellbeing. With this in mind, data measures can be further developed and strengthened in an attempt to include various elements that gauge, in the fullest sense, "quality of life" and all of the various dimensions that encapsulate the concept of well-being. It is important to recognize that data measures should reflect a diverse set of indictors which could also include, for example, the legacy of colonialism and residential schools, the cycle and impacts of violence, low income and poverty, housing and residential mobility, teen pregnancy, drug and alcohol abuse, suicide, Aboriginal language retention and cultural/ spiritual awareness, family and community relationships, the role of educational programs or institutions, measurement of socio-economic conditions of children in relation to family and community, and overall aspects of physical and mental health.

The most valuable finding in the present analysis is that "family matters" and lives are linked, regardless of whether a child resides in a lone-parent family or a coupled family based on standard definitions, as the number of people living in the household increases the odds that a child will have better well-being outcomes. This was observed in all three regression models whereby there was a noticeable effect of household size in relation to different family structure; i.e., lone-parent families compared to coupled families; and showed to have a significant effect on children's outcomes, while controlling for other important social factor such as Aboriginal identity group (First Nations compared to Métis), age of parent, gender of parent, education level of the parent, household size, dwelling conditions, and total household income. Some people affirm that "it takes a village to raise a child," and this idea lends support to the relationship between family structure and household size identified in this study. With more people living in a household, we can expect an increase in a child's engagement in social activities, their parent(s) to perceive them to be better school performers, and for the number of their chronic health conditions to decrease at the same time. These findings are important, and this study provides a creative and unique analytical approach that could be used for further inquiry to explore the link between family structure, household size, and other socio-economic and cultural dimensions of well-being for Aboriginal children.

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