Correlates of Physical Activity among Métis

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of my thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

Objective: Adult Métis suffer from a high prevalence of obesity and chronic health conditions such as diabetes, respiratory and cardiovascular disease. Insufficient physical activity, a strong predictor of these conditions, has not been well studied among this population. The purpose of this study is to identify Métis-specific correlates of physical activity, examine how modifiable health behaviours are associated with physical activity, and determine how the correlates differ for leisure-time, active transportation, and occupational physical activity.

Methods: This study used data from the *2006 Aboriginal Peoples Survey* (APS) *and Métis Supplement* to quantitatively analyze demographic, geographic, socioeconomic, health-related, and Aboriginal-specific correlates of physical activity among working-age adult Métis. Data were accessed at the Southwestern Ontario Research Data Centre (SWORDC) at the University of Waterloo. A series of logistic regression models was used for the analyses and each model used bootstrap weights that were specifically designed for the survey by Statistics Canada.

Results: Data from the 2006 APS demonstrated that the level of reported leisure-time physical activity was positively associated with being male, living in British Columbia, household income, self-perceived health, and having attended a Métis cultural event. Negative associations with leisure-time physical activity were observed with age, smoking status, and body mass index (BMI). Level of reported active transportation was positively associated with being female, self-perceived health, and having attended a Métis cultural event. Correlates negatively associated with active transportation included age, income, residence in the Territories and Quebec, and BMI. Greater levels of occupational/household physical activity were reported among men and

younger adult age groups, and in rural areas. In addition, living in British Columbia, higher ratings of self-perceived health, smoking, and spirituality were positively associated with occupational/household physical activity. Adult Métis with lower levels of education and lower household income were more likely to report higher levels of occupational physical activity.

Conclusions: The results of this study demonstrate that leisure-time physical activity, active transportation, and occupational physical activity differ in how they are associated with demographic, geographic, socioeconomic, health-related, and Aboriginal-specific variables. All three types of activity should be considered as important parts of an active lifestyle. This study highlights the significant associations between health-related variables and physical activity participation, and suggests that promoting more physical activity among adult Métis is important as a means to improve their overall health, reduce health disparities, and decrease the prevalence of chronic health conditions among this population. In addition, this study provides evidence that culturally specific factors may be particularly important to consider when designing interventions to promote more physical activity among adult Métis.

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Dedication

For my wonderful parents

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Chapter 1: Introduction and Overview

1.1: Statement of the Problem

There has been extensive research demonstrating the importance of physical activity in maintaining and improving overall health. One systematic review of such health benefits highlights the importance of physical activity in the primary and secondary prevention of certain widespread chronic health conditions. Physical activity has been shown to decrease significantly the risk for cardiovascular disease, type II diabetes, hypertension, obesity, and hypercholesterolemia (Waburton, Nicol, & Bredin, 2006). Increasing physical activity is also important for those already suffering from those diseases. As a secondary prevention measure, increasing physical activity and improving physical fitness can effectively slow the progression and improve the management of cardiovascular disease and type II diabetes (Waburton et al., 2006). Such results demonstrate the importance of understanding correlates of participation in physical activity so that efforts can be made to promote increased overall activity and decrease the burden of premature death as a result of chronic health conditions.

Aboriginal peoples, including First Nations, Inuit, and Métis, are at a higher risk of suffering from obesity and chronic conditions such as diabetes, and respiratory and cardiovascular disease than are non-Aboriginal Canadians (Findlay, 2011;Tjepkema, Wilkins, Sénecal, Guimond, & Penney, 2009). Physical inactivity is a strong predictor of these chronic physical conditions (Wilson, D'Agostino, Sullivan, Parise, & Kannel, 2002). Therefore, promoting physical activity and developing an understanding of what predicts physical activity among this population group is a potentially important strategy for reducing health inequalities.

The Métis, a distinct Aboriginal group in Canada, are historically and culturally unique. Cultural descendents of an historical intermarriage between First Nations women and European men, Métis make up 30% of the Aboriginal Canadian population (Janz, Seto, & Turner, 2009). Not only has their health been understudied, but in particular, there has been little examination of physical activity among them, a major determinant of health (Kumar, Wesche, & McGuire, 2012). Moreover, the existing research has focused more on leisure-time physical activity and has not considered active transportation and occupational physical activity, types of activity with potential health benefits. In addition, little research has examined the associations between modifiable health behaviours and physical activity among Métis, an important area of study considering that Métis are at higher risk to smoke and drink heavily compared to non-Aboriginal Canadians (Gionet & Roshanafshar, 2013). Although research has examined the association between the health of Aboriginal peoples and participation in traditional activities (Wilson & Rosenberg, 2002), there is a lack of research examining culturally specific determinants of physical activity among adult Métis.

1.2: Study Rationale

Métis suffer from poorer health than non-Aboriginal Canadians and, as said, have been largely understudied. Their participation in physical activity is an aspect of their lives that has not been thoroughly researched, despite its well-known health benefits.

Most Canadians, including Aboriginal Canadians, do not meet the recommended levels of physical activity despite the fact that the health benefits of regular physical activity are well known. Three significant review papers have been published on the physical activity levels of Aboriginal peoples in Canada and Native American populations in the United States (Young &

Katzmarzyk, 2007; Coble & Rhodes, 2006; Foulds, Warburton, & Bredin, 2013). Despite participating in somewhat more leisure-time activity than non-Aboriginal Canadians, only 27% of Aboriginal Canadians meet the level of 150 minutes of moderate to vigorous physical activity for adults on a weekly basis (Foulds et al., 2013) recommended by the Canadian Society of Exercise Physiologists (CSEP, 2012).

Much of the research on physical activity participation among Métis has used data from the Canadian Community Health Survey (CCHS) (Findlay, 2011), which does not include many culturally specific measures. The need for measurement of physical activity participation beyond leisure time has been cited as important (Young & Katzmarzyk, 2007). In addition, more consideration of culturally specific activities is required (Coble & Rhodes, 2006), as well as research that uses a Métis-specific rather than a pan-Aboriginal approach (Métis Nation of Ontario, 2012).

The Métis supplement was a component of the APS particularly important to this study and contained many of the variables used in this research. The desired outcome of this research was to develop a better understanding of the physical activity levels and the correlates of physical activity among Métis by utilizing the 2006 APS and Métis supplement, which collected data on active transportation, occupational physical activity, in addition to leisure-time physical activity.

This study was designed to consider the correlates of physical activity solely among Métis for a number of reasons. In addition to the desire to focus this study, a Métis-specific approach was considered because the Métis are the fastest growing and the youngest Aboriginal Canadian group, with a population of approximately 390,000 people (Janz et al., 2009) . Furthermore, the Métis supplement provided an excellent opportunity to conduct this research, as

it contained sections with content that was strongly influenced by the Métis National Council (Statistics Canada, 2009). Another important consideration was that the survey questions on the Métis supplement, including the physical activity questions used in this research, were designed specifically with Métis in mind.

It is hoped that this research will help to develop a better understanding of what predicts physical activity among Métis. In doing so, this thesis may provide evidence for what may increase their physical activity participation. This work could help to identify what societal or environmental interventions may be most important in promoting more activity among Métis.

1.3: Study Purpose and Research Questions:

The purpose of this thesis was to study the correlates of physical activity among working-age adult Métis by analyzing data from the 2006 Aboriginal Peoples Survey (APS) and Métis Supplement. Three types of physical activity were examined, including leisure-time, active transportation and occupational/household activity.

A main focus of the study was to identify Métis-specific correlates of physical activity. More specifically, the study examined how language, participation in traditional Métis-specific activities, and Métis social interaction were associated with physical activity participation. Furthermore, this study investigated how smoking, binge drinking, and body mass index were associated with physical activity among Métis.

The following specific research questions were examined:

What are the important Métis-specific correlates of physical activity?

a. How are Aboriginal-specific determinants of health, such as cultural continuity, spirituality, language, and participation in traditional activities associated with physical activity among working-age Métis?
b. How are the modifiable health behaviours or health characteristics of smoking, binge drinking, and body mass associated with physical activity among working-age adult Métis?
c. How do the correlates differ for leisure-time, active transportation, and occupational physical activity among working-age adult Métis?

These research questions were addressed using a series of binary and ordinal logistic regression models.

1.4: Organization

Chapter two of this thesis reviews the literature that has examined the associations between health and physical activity among Aboriginal Canadians. In addition, types of physical activity are defined, and research that has investigated determinants of various modes of activity is outlined. Chapter three provides a description of the quantitative methods used in this study, and chapter four details quantitative results. Finally, chapter five discusses the results of the present study, as well as addressing study strengths, limitations, implications, and directions for future research.

Chapter 2: Literature Review

Aboriginal Canadians and Native American adults suffer from a high prevalence of chronic conditions such as high blood pressure, diabetes, and cardiovascular disease (Janz et al., 2009). Due to the frequency of serious health challenges, adequate physical activity may be particularly important for the health of adult Métis.

In the following sections, we review the categories of physical activity, the associations between health and physical activity among Native Americans and Aboriginal Canadians, and participation levels among Aboriginal peoples. In addition, social and Aboriginal-specific determinants of health frameworks will be outlined and their possible relationship to physical activity will be discussed. Finally, the determinants of physical activity among these populations are reviewed, including demographic, geographic, socioeconomic, and health-related determinants.

2.1: Physical Activity

Physical activity is often categorized as "leisure-time activity", "active transportation", or "occupational activity". Leisure-time physical activity is characterized as participation in sports and outdoor activities for enjoyment or exercise. Activities as a result of occupational demands or for the purpose of transportation are not considered part of this type of physical activity, but can still be important components of an active lifestyle. Active transportation is defined as the use of human physical movement as a means of travelling from one place to another. Walking or bicycling for purposes other than leisure, such as to get to work or to complete errands, typifies active transportation (Public Health Agency of Canada, 2010). Significant amounts of physical activity may be accumulated through active transportation physical activity. Certain occupations

and activities around the home also require physical exertion that may significantly influence overall physical activity level. Such daily activities, at work or around the home, can be considered occupational physical activity (Public Health Agency of Canada, 2011).

With regard to quantity and intensity of physical activity, the Canadian Society of Exercise Physiologists (CSEP) recommends 150 minutes of moderate to vigorous physical activity for adults on a weekly basis (CSEP, 2012). Moderate-intensity physical activity is often described as activity that causes an individual to perceive an elevated heart rate, or between three to six times greater exertion than rest (CSEP, 2012). Examples of activities of moderate-intensity include brisk walking, housework, general gardening, or bicycling at a pace of less than 16 kilometers per hour (CSEP, 2012). Vigorous-intensity physical activity is characterized by a significant elevation in heart rate and an intensity of six or more times greater than rest (CSEP, 2012). Examples of activities of vigorous intensity include running, cross-country skiing, heavy gardening, or bicycling faster than 16 kilometers per hour (CSEP, 2012).

Researchers measuring physical activity participation among Aboriginal and non-Aboriginal Canadians have often quantified physical activity participation based on the number of kilocalories per kilogram per day (kkd) expended. Findlay (2006) and Gilmour (2007) quantified inactivity as less than 1.5 kkd, moderate activity as expending between 1.5 and less than 3 kkd, and high activity as more than 3 kkd. Bryan, Tremblay, Perez, Ardern, & Katzmarzyk (2006) classified moderate activity as greater or equal to 1.5 kkd and less than 3 kkd, moderate to high activity as equal to or greater than 3 kkd but less than 6 kkd, and high activity as expending 6 kkd or more. The classifications used by Findlay (2006), Bryan et al. (2006) and Gilmour (2007) are somewhat comparable to the CSEP guidelines for physical activity participation. For example, their definitions of moderate activity (1.5 kkd and less than 3

kkd) are equal to walking approximately 30 minutes per day, which exceeds the CSEP guidelines.

A number of different methods have been used to measure physical activity levels, including self-reported activity and direct measurement using accelerometry. Research has investigated how different measurement techniques influence reported physical activity levels (Garriguet & Colley, 2014). Physical activity measurement techniques are discussed in section **5.1**.

2.2: Health and Physical Activity among Aboriginal Canadians and Native Americans

This section will review the associations between physical activity participation and health among Aboriginal Canadians and Native Americans, groups that share similar social and historical contexts. Both populations have been victims of colonization, cultural suppression, and land appropriation (Kirmayer, Gone, & Moses, 2014), experiences that have been suggested to have negatively influenced the health and wellbeing of Aboriginal peoples (King, Smith, & Gracey, 2009). Aboriginal Canadians and Native Americans both experience poorer health than the overall Canadian and American populations (Janz et al, 2009; King et al., 2009). Such similarities may justify examining literature on physical activity participation among both Aboriginal Canadians and Native Americans.

Overall, the body of literature on physical activity participation among Aboriginal Canadians and Native Americans, especially Métis, is relatively small. The research that has examined physical activity participation among Aboriginal Canadians has been predominantly large-scale and cross-sectional in nature, often using data from the Canadian Community Health Survey (CCHS) (Bryan et al., 2006; Findlay, 2011; Gilmour, 2007). In addition, there have been

three significant review papers published on physical activity participation among Aboriginal Canadians and Native Americans (Coble & Rhodes, 2006; Young & Katzmarzyk, 2007; Foulds et al., 2013). Smaller scale studies examining physical activity among Native Americans have also been conducted (Kriska et al., 2003; Thompson, Wolfe, Wilson, Pardilla, & Perez, 2003; Fischer et al., 1999; Harnack, Story, & Rock, 1999; Irwin et al, 2000; Murphy et al., 1997).

Research has shown that levels of physical activity can predict health status among Native Americans. Kriska et al. (2003) demonstrated a lower incidence of diabetes among Pima Indian adults who were more physically active in their leisure time, after controlling for body mass index. Similarly, greater moderate and vigorous physical activity among Native American women living on reservations in New Mexico has been shown to be associated with significant reductions in fasting insulin levels and improved insulin sensitivity (Irwin et al., 2000). Furthermore, occupational and leisure-time physical activity among Ojibwa-Cree adult men living in Sandy Lake, Ontario, has been demonstrated to be significantly associated with lower fasting insulin levels after controlling for body mass index and waist circumference (Kriska, Hanley, Harris, & Zinman, 2001). It is known that high fasting insulin levels are a risk factor for type-two diabetes. Such results are important because Native Americans and Aboriginal Canadians are burdened with a very high prevalence of type-two diabetes (Janz et al., 2009; Bruce, 2000).

The Métis are a distinct Aboriginal group in Canada that suffers from poorer average health than non-Aboriginal Canadians. The prevalence of diabetes among Métis adults living in Ontario is significantly higher than that of the general Ontario population (Shah, Cauch-Dudek, & Pigeau, 2011). Similarly, data from the 1991 APS demonstrated that the age standardized

prevalence of diabetes among Métis living in Manitoba, Saskatchewan, and Alberta was three times greater than in the general population within these three Western provinces (Bruce, 2000).

The risk of developing diabetes among Métis living in Western Canada was lower in those who participated in physical activity after controlling for body mass index and age (Bruce, 2000). Métis living in Western Canada who reported being physically active were also less likely to report having heart related health conditions (Bruce, 2000). However, it is significant that the questions relating to physical activity included in the 1991 APS were not detailed. Frequency of physical activity was not assessed, as physical activity participation was only measured by "yes" or "no" questions measuring participation in physical activity (Bruce, 2000).

The link between physical activity participation and self-perceived health is also important to review, as a relationship exists between self-perceived health and objective measures of health. Data from the National Population Health Survey have indicated that measures of self-perceived health are significantly correlated with physical health conditions, such as functional ability, the incidence of chronic disease and illness recovery (Shields & Shooshtari, 2001). Positive associations have been found between active leisure time and self-perceived physical and mental health among Métis and Native Americans (Findlay, 2011; Janz et al., 2009; Fischer et al, 1999). This relationship appears relevant, considering that overall, Canadians who are more active are less likely to be overweight or obese, less likely to have high blood pressure, less likely to report high stress levels, and more likely to rate their health as very good or excellent (Gilmour, 2007).

Métis 35 years of age and older have been found to have poorer self-perceived health than non-Aboriginal Canadians (Janz et al., 2009). Despite the fact that Métis have been shown to be more active in their leisure-time than non-Aboriginal Canadians, 45% of Métis respondents

from the 2001 APS and 48% of Métis respondents from the 2006 APS stated that "increasing exercise" was "the most important thing [they] could do to improve [their] physical health" (Janz et al., 2009), further demonstrating the importance of understanding the correlates of physical activity and ways of promoting participation.

2.3: Physical Activity Levels and Aboriginal Peoples

Research that has examined leisure-time, active transportation, and occupational physical activity participation among Aboriginal peoples will be reviewed below. In addition, conceptual frameworks that guided the research of the present study will be outlined. Finally, literature that has examined the determinants of physical activity participation among Aboriginal peoples will be considered.

2.3.1: Leisure-Time Physical Activity Levels among Aboriginal Peoples

Research has shown that Aboriginal Canadians may be more physically active in their leisure time than non-Aboriginal Canadians (Findlay, 2011; Bryan et al., 2006; Gilmour, 2007). Data from the 2005 Canadian Community Health Survey (CCHS) indicated that off-reserve Aboriginal peoples were more likely to be moderately physically active than non-Aboriginal peoples (Gilmour, 2007). Furthermore, Aboriginal peoples in North America have been shown to have the greatest participation rate in moderate to high (≥3 kkd) and high physical activity (≥6 kkd) compared to other Canadian ethnic groups (Bryan et al., 2006). Findlay (2011) used data from the 2005 CCHS to show that 30%, 31%, 37% and 39% of non-Aboriginal Canadians, Inuit, off-reserve First Nations, and Métis were physically active during their leisure-time (≥ 3 kkd), respectively.

Despite higher levels of leisure-time physical activity, it is troubling that Aboriginal Canadians, including Métis, have suffered from a greater burden of chronic diseases such as cardiovascular disease, diabetes, and respiratory diseases than non-Aboriginal Canadians (Findlay, 2011; Tjepkema, Wilkins, Senecal, Guimond, & Penney, 2011; Janz et al., 2009). It has been suggested that achieving recommended levels of physical activity may be particularly important for Aboriginal Canadians, considering the high prevalence of chronic health conditions that burden this population (Foulds et al., 2013).

2.3.2: Active Transportation, Occupational and Household Physical Activity among Aboriginal Peoples

This section will briefly review the literature that has examined active transportation and occupational activity participation among Aboriginal peoples. Active transportation and occupational activity will both be considered in this section because of the small number of studies that have been conducted on each type of activity to date.

Previous research that examined data from the 2006 APS indicated that Métis participated in similar amounts of walking for the purpose of transportation compared to the overall Canadian population (Janz et al, 2009). Moreover, in terms of occupational physical activity and daily activities, Métis appeared to be marginally more active than the overall Canadian population (Janz et al., 2009), perhaps reflecting greater participation in occupations that required manual labour. More research is needed to determine the correlates of active transportation and occupational physical activity levels among Métis.

It is important to consider that low levels of leisure-time physical activity do not necessarily indicate low levels of overall physical activity. For example, close to 90% of

Chippewa and Menominee American Indians who participated in the Inter-Tribal Heart Project reported walking 20 minutes or more during a typical workday, demonstrating the potential to participate in considerable amounts of physical activity during occupational activities. It is significant that a large proportion of respondents lived in a rural community where many worked in construction or lumber industries (Fischer et al., 1999). Furthermore, 90% of women respondents reported participating in significant amounts of household activity (Fischer et al., 1999). These findings demonstrate the importance of measuring activity levels beyond just leisure time. Contributions to overall activity levels and potential health benefits may be gained from occupational/household activity and active transportation.

Demonstrating the potential health benefits of occupational physical activity are results from a study that examined physical fitness among adult Aboriginal Canadians living in Sandy Lake, Ontario. Among men in the study, occupational physical activity was significantly associated with cardiorespiratory fitness as measured using submaximal oxygen uptake testing (Kriska, 2001). Therefore, active transportation and occupational/household physical activity may be particularly important when examining physical activity levels among Aboriginal Canadians.

2.4: Conceptual Frameworks

Social determinants of health (Raphael, 2009) and Aboriginal-specific determinants of health frameworks (Wilson & Rosenberg, 2002; Richmond & Ross, 2009) may help predict how certain social and cultural factors could be associated with participation in physical activity. Factors that are considered to be connected to these frameworks are also part of a larger ecological model that has been used to predict engagement in physical activity participation

(Sallis, Owen, & Fisher, 2008). Therefore, the ecological model will be briefly outlined below, as it is important to acknowledge that social and Aboriginal-specific determinants, in terms of how they may be correlated with physical activity, are part of a more inclusive model that examines other factors such as governmental policy and the built environment (Sallis et al., 2008). Most important for the purpose of this study, the ecological model includes modifiable health behaviours such as smoking and alcohol consumption, as correlates of physical activity participation (Sallis et al., 2008). As previously mentioned, one of the main objectives of the present study is to examine the associations between modifiable health behaviours and physical activity participation among Métis. Social determinants of health and Aboriginal-specific determinants of health frameworks, including components of the ecological model, helped guide the research questions of this study.

2.4.1: Ecological Model

The ecological model of health behaviours is important when examining correlates of physical activity participation. An ecological model of physical activity participation includes policy, environmental, social, and psychological influences (Sallis et al., 2008), all of which may influence physical activity participation. Considering all the potential levels of influence on physical activity is beyond the scope of this thesis. However, components of an ecological model will be important to this study, such as smoking status and alcohol consumption. These modifiable health behaviours are prevalent among Métis (Gionet & Roshanafshar, 2013) and there is a lack of research examining how they are associated with physical activity participation among this population.

Social and Aboriginal-specific determinants of health frameworks encompass some of the intrapersonal and social and cultural environmental influences included in an ecological model of active living (Sallis et al., 2008). Since a main focus of this thesis will be to identify Métis-specific predictors of physical activity, social and Aboriginal-specific determinants of health frameworks will be used to help predict how socioeconomic and Aboriginal-specific variables are associated with physical activity, based on the premise that multiple levels of influence, as captured by an ecological model, predict physical activity participation.

2.4.2: Social Determinants of Health

A number of variables considered to be social determinants of health are of interest when considering the correlates of physical activity among Métis. Education, employment, gender, and income are considered to be social determinants of health (Raphael, 2009). It is has been shown that associations exist between these social determinants of health and physical activity (Findlay, 2011; Gilmour, 2007; Young & Katzmarzyk, 2007). Gender associations will be reviewed in section **2.5.1** and correlations between socioeconomic variables and physical activity will be outlined in section **2.5.2**. However, there is a lack of research examining how social determinants are associated with physical activity among Métis. In particular, how these factors are associated with different types of physical activity has not been examined among this population.

2.4.3: Aboriginal-Specific Determinants of Health

In addition to a health framework based on social determinants, evidence also point to one centered on Aboriginal-specific determinants. Participation in traditional activities and environmental/cultural connections have been identified as constituting two important

Aboriginal-specific determinants of health (Wilson & Rosenberg, 2002; Richmond & Ross, 2009). It has been hypothesized that a potential association exists between certain Aboriginal-specific determinants of health and participation in physical activity (Nelson, Abbott, & Macdonald, 2010). There is, however, a lack of research examining culturally specific determinants of physical activity among adult Métis. Young and Katzmarzyk (2007) point out, in this regard, that commonly used tools to measure physical activity among Aboriginal peoples in Canada do not consider culturally specific activities.

Beyond participation in traditional activities and cultural connections, attachment to land, Aboriginal language, and spirituality are considered important to the health of Aboriginal Canadians (King et al., 2009). Research using focus group methodology has demonstrated that among Métis women, for example, a strong spiritual component to life and participation in traditional Aboriginal practices are regarded as important components of their health and well-being (Bartlett, 2005).

With respect to language, while less than 10% of adult Métis speak an Aboriginal tongue, close to 50% of Métis respondents to the 2006 APS indicated that maintaining or learning an Aboriginal language was important to them (Gionet, 2009). This is a significant response, given the importance of language as a vehicle for the preservation and transmission of Aboriginal tradition and culturally specific activities with their accompanying positive health benefits.

Research has shown that participation in traditional activities such as hunting, eating food from the land, and camping on the land can improve the mental health of Aboriginal peoples (Kirmayer, Fletcher, & Watt, 2009). In a review focusing largely on the perspective of Canadian Indigenous peoples, King et al. (2009) argue that colonization, being less connected to the land,

and a loss of Aboriginal culture and language partly explain the health disparity that exists between Aboriginal and non-Aboriginal Canadians (King et al., 2009).

As reviewed, there is a paucity of research that has investigated the potential connections between Aboriginal-specific determinants of health and participation in physical activity.

2.5: Determinants of Physical Activity among Aboriginal Peoples

This section will review the literature that has examined the demographic, geographic, socioeconomic, and health-related determinants of physical activity among Aboriginal peoples.

2.5.1: Demographic and Geographic Determinants of Physical Activity

Age and gender are two demographic variables that have been shown to be associated with physical activity levels among Aboriginal peoples. Research that examined the physical activity patterns of Chippewa and Menominee Indians in the United States demonstrated that increasing age predicted less leisure-time physical activity (Fischer, 1999). Similarly, research using the 2005 CCHS indicated that being younger predicted a greater likelihood of active leisure time among Métis (Findlay, 2011). With regard to gender, Findlay (2011) found that Métis men participated in greater levels of leisure-time physical activity. In addition, men among Lakota Indians living on reservations have been found to be more likely to take part in moderate or strenuous physical activity (Harnack et al., 1999). A recent systematic review study that examined physical activity among Aboriginal Canadians and Native Americans further supported the finding that being male and being younger predicted greater levels of leisure-time physical activity (Foulds et al., 2013).

The associations between demographic variables and active transportation are less clear than those between demographic variables and leisure-time physical activity, particularly among Aboriginal peoples. Gilmour (2007) using data from the CCHS, demonstrated than men were more likely than women to participate in active transportation. On the other hand, research has shown that European women are more likely than men to walk for the purpose of transportation (Kwasniewska et al., 2010), while other research demonstrated no significant differences in active transportation levels among European adults (Panter, Jones, Sluijs, & Wareham, 2011).

With regard to occupational physical activity, data from the 2006 Canadian Census demonstrated that Métis men reported participating in high levels of occupational physical activity (Janz, 2009). As in the case with active transportation, more research is needed to examine the correlates of occupational physical activity among Aboriginal peoples.

To date, there has been little research examining how geography is associated with physical activity participation among Métis, an important area of study because of the known correlations between area of residence and level of activity within the general population. This section reviews how levels of leisure-time physical activity and active transportation vary based on geographic residence among the overall Canadian population. In addition, the little research that has examined how geography influences physical activity among Métis is reviewed.

Research has demonstrated a variation in physical activity levels by geographic region in Canada. Gilmour (2007) found that Canadians living in British Columbia were the most active during their leisure-time compared to the national average. In general, as east-to-west gradient was observed. Canadians living in the eastern provinces were more likely to report lower levels of leisure-time physical activity compared to those living in Ontario, Alberta, Yukon and British Columbia (Gilmour, 2007). However, regional differences for occupational/household physical

activity differed from those that were observed for leisure-time physical activity. Canadians living in the Atlantic Provinces, the Prairies, and in British Columbia were significantly more likely to report being more active during their daily activities compared to the national average (Gilmour, 2007). For active transportation, Quebec residents reported significantly lower rates compared to the national average (Gilmour, 2007).

Rates of moderately active leisure-time physical activity are greater in urban areas than in rural areas. In Census Agglomerations (CAs) (10,000 to < 100,000 people) and smaller Census Metropolitan Areas (CMAs) (100,000 to < 2 million people), leisure-time physical activity participation has shown to be higher than the national average (Gilmour, 2007). Research has demonstrated that proximity to parks and recreation settings, of which there are more in urban areas, is positively associated with physical activity (Kaczynski & Henderson, 2007). In addition, it has been demonstrated that greater residential density tends to predict greater levels of physical activity participation (Ding, Sallis, Kerr, Lee, & Rosenberg, 2011).

Rates of walking and biking for transportation in CAs and smaller CMAs have also been shown to be greater than the national rate (Gilmour, 2007). The built environment can strongly influence active transportation levels. An important characteristic of urban areas that is associated with physical activity is mixed land. Mixed land use, which refers to a variety of developments within a small geographic area, encourages more walking and less automobile dependence (Saelens & Handy, 2008). American research has shown that there are lower levels of low-intensity physical activity among people living in rural areas, potentially because it is more difficult to walk to work, commercial centers, or recreational facilities than it is in urban areas (Dalbey, 2008).

High rates of physical activity in CAs and smaller CMAs suggest that levels of physical activity may be higher in urban areas. However, data from the 2005 CCHS demonstrated that Canadians living in the largest CMAs, defined as areas with a population of greater than two million people, are less active during leisure time compared to the national rate (Gilmour, 2007). It has been suggested that physical activity levels may be lower in the largest CMAs because immigrants, who are on average less active, heavily populate these areas (Gilmour, 2007). In addition, rates of walking and bicycling for transportation and physical activity levels during daily activities have been shown to be lower in the largest CMAs (Gilmour, 2007).

Sixty-nine percent of Métis live in urban areas and 59% live in CMAs (Gionet, 2009). Research has shown that Métis living in urban areas are more likely to be moderately physically active (1.5-3.0 kkd) in their leisure time than those living in rural areas (Findlay, 2011). Data suggest that there is an increase in the number of Aboriginal peoples living in urban areas (Wilson & Rosenberg, 2002), but more research is needed to determine if this is resulting in increased levels of moderate physical activity among Aboriginal Canadians.

Research has also investigated the effect of Metropolitan Influence Zones (MIZs) on levels of participation in leisure-time physical activity among Canadians. Census subdivisions (CSDs) are geographic areas outside of CAs and CMAs. A strong, moderate, weak, or no MIZ category is given to each CSD based on the percentage of the work force that commutes to CAs or CMAs. A strong MIZ refers to a CSD that is closer to a CA or CMA. Geographic regions in the Territories outside of CAs and CMAs are given a separate MIZ category (Statistics Canada, 2012). Data from the 2005 CCHS indicated that people living in areas classified as a having no or moderate metropolitan influence were less active during their leisure time. Furthermore,

increasing metropolitan influence predicted less walking and bicycling as a means of transportation (Gilmour, 2007).

The significant associations between physical activity and geographic variables, including regional and urban/rural geography, demonstrate the importance of considering these correlates when examining the physical activity participation among Métis.

2.5.2: Socioeconomic Determinants of Physical Activity

Previous research has shown that education and income, two socioeconomic variables, are correlated with physical activity participation. Research that used the 2005 CCHS demonstrated that having a higher level of education predicted a greater likelihood of active leisure time among Métis (Findlay, 2011). Similarly, Thomson et al. (2003) demonstrated that educational attainment was associated with a greater level of physical activity participation among Native American women. Furthermore, a review study that examined physical activity among Aboriginal peoples produced evidence that indicated that having less education and lower income predicted a greater likelihood of being physically inactive during leisure time (Young & Katzmarzyk, 2007). Among the overall Canadian population, lower education and lower income have been shown to predict lower levels of leisure-time physical activity (Gilmour, 2007; Findlay, 2001).

There is a lack of research that has examined the associations between socioeconomic variables and the level of active transportation among Aboriginal peoples. However, research that used data from the 2003 CCHS demonstrated that Canadians with a lower income were more likely to bicycle or walk for the purpose of transportation compared to those with a high income (Butler, Orpana, & Wiens, 2007). Similarly, data from the 2005 National Health

Interview Survey indicated that Americans were more likely to walk for the purpose of transportation if they had a low-income level (Kruger, Ham, Berrigan, & Ballard-Barbach, 2008). A low income level may be positively associated with active transportation because lower income earners are less likely to be able to afford other means of transportation. Butler et al. (2007) and Kruger et al. (2008) also demonstrated that higher levels of education predicted more active transportation, an association that parallels what has been found between educational attainment and leisure-time physical activity.

Educational attainment and income are also associated with occupational physical activity. Statistics Canada has demonstrated that Canadians with a high level of education are less likely to work jobs that require a high degree of physical labour (Statistics Canada, 2013). In addition, high-income earners in Canada are more likely to have attained a high level of education and are less likely to work physically demanding occupations (Statistics Canada, 2013). In summary, leisure-time physical activity, active transportation, and occupational physical activity have all been shown to be associated with socioeconomic variables, although the direction of the associations seem to differ depending on the type of physical activity. A clearer picture is needed for how these variables are associated with the different modes of physical activity among Métis.

2.5.3: Modifiable Health Behaviours and Physical Activity

This section will review the prevalence of smoking and heavy drinking among Aboriginal Canadians and will highlight research that has examined overweight and obesity rates among Aboriginal Canadians. Research that has studied smoking, binge drinking, and BMI and their associations with physical activity will also be reviewed.

Smoking and alcohol consumption are modifiable health behaviours, and BMI is a health characteristic that can be regulated. The negative health consequences of smoking, binge drinking, and being overweight or obese have been well documented (Health Canada, 2013, 2011, 2006). Statistics Canada defines a "current daily smoker" as someone who smokes cigarettes everyday and an "occasional smoker" as someone who smokes cigarettes from time-to-time (Statistics Canada, 2014). Heavy drinking is defined as having five or more drinks on one occasion once per month or more over the course of a year (Statistics Canada, 2012). BMI is calculated by dividing an individual's weight by their height squared. For adults, the World Health Organization and Statistics Canada define a BMI between 25.00 and 29.99 as overweight, and a BMI greater than 30.00 as obese (Statistics Canada, 2014).

Statistics Canada (2013) data has demonstrated that the smoking rate among Aboriginal Canadians is significantly higher compared to the rate in general Canadian population. The prevalence of smoking among Métis adults, for example, was found to be 30% compared to 15% among non-Aboriginal Canadians (Gionet & Roshanafshar, 2013). Similarly, 27% of Métis adults reported heavy drinking compared to 19% of non-Aboriginal Canadians (Gionet & Roshanafshar, 2013). Aboriginal Canadians are also significantly more likely to be obese than non-Aboriginal Canadians. Among adult Métis specifically, self-reported height and weight values indicated a 22% prevalence of obesity compared to 16% prevalence among non-Aboriginal Canadian adults (Gionet & Roshanafshar, 2013).

There is a lack of research that has examined the association between smoking status and physical activity participation among Aboriginal Canadians. However, Kaczynski, Manske, Mannell, & Grewal (2008) conducted a systematic review that demonstrated that smokers are generally less likely to be physically active in their leisure time. In addition, research that

examined the physical activity patterns of Chippewa and Menominee Indians in the United States demonstrated that smoking predicted less leisure-time physical activity (Fischer, 1999).

The association between heavy drinking and physical activity is less clear. Heavy drinking among Dutch adults has been shown to be associated with lower levels of physical activity (Mesters, Wahl, & Van Keulen, 2014), while other research has not found heavy drinking to be significantly associated with physical activity (Sallis et al., 1989; Blair, Jacobs, & Powell, 1985).

Strong relationships exist between BMI and physical activity level. Gilmour (2007) used data from the 2005 CCHS and examined physical activity participation among Canadians. Those who participated in more leisure-time physical activity were significantly less likely to be overweight or obese (Gilmour, 2007). Similarly, Harnack et al. (1999) demonstrated a strong inverse association between BMI and physical activity level among Lakota Indian adults.

Considering the associations between the aforementioned health-related correlates and physical activity participation among Métis is important. Not only is the prevalence of smoking, heavy drinking, and obesity high among this population, but also, the literature suggests that physical activity is associated with these factors and may play a part in reducing the negative health burden imposed by them.

Chapter 3: Methods

Data from the 2006 APS Master File were used for a quantitative analysis of the correlates of physical activity among working-age Métis adults. This included data from the Métis Supplement and the 2006 census, which were attached to the 2006 APS data file.

3.1: The Aboriginal Peoples Survey and the Métis Supplement

The 2006 APS collected information on social and economic conditions of Aboriginal Canadians. Obtained was information on education, employment, income, housing, general health, mental health, health behaviours, knowledge of an Aboriginal language, and participation in traditional activities (Statistics Canada, 2012). Data were collected on First Nations people living off reserve, Métis, and Inuit (Statistics Canada, 2012).

The APS was administered in 1991, 2001, 2006, and 2012. Data from the 2006 APS were used for this thesis because data from the 2012 survey had not yet been released for analysis and had less suitable physical activity questions.

The Métis Supplement, one of the four 2006 APS questionnaires, was developed in collaboration with the Métis National Council. Self-identifying as Métis and/or having Métis ancestry, as well as being an adult over 15 years of age, were criteria for being administered the Métis Supplement. The Métis Supplement contained sections on family background, child welfare, social interaction, and health. Please see **Appendix A** for the APS and Métis supplement questionnaires.

3.2: The Sample

The 2006 APS collected data on Aboriginal Canadians six years of age and older and the attached Métis supplement was administered to adult Métis aged 15 and older. The population of interest for this thesis included working-age adult respondents 20 to 64 years of age who identified themselves as being Métis. The sample was restricted to working-age adults, most likely to be those aged 20 to 64, for two main reasons. Firstly, adult Métis younger than 20 years of age were excluded from the analyses because, compared to older adult age groups, they may be more likely to be involved in organized physical activities at school and perhaps less self-directed in the activity choices they make. Secondly, the age range of 20 to 64 was chosen to be consistent with some of the research that used the CCHS to examine physical activity among Aboriginal Canadians (Bryan, Tremblay, Perez, Ardern, & Katzmarzyk, 2006). Analyzing the specific Aboriginal identity of the 48,921 respondents of the 2006 APS identified Métis. In total, 8,330 adult Métis responded to the survey.

The Census was the sampling frame for the 2006 APS. Long forms of the Census were administered to approximately 20% of Canadian households. Other than households in Yellowknife and Whitehorse where only one in five were sampled, all households in the Territories and the Northern parts of each province were administered long forms of the Census. Aboriginal Canadians were identified based on four screening questions on the 2B and 2D Census long forms that assessed ethnic origin, Aboriginal self-identification, Indian band/First Nation membership, and Treaty or Registered Indian Status.

The 2006 APS was considered a two-phase sample because individuals administered the survey were randomly sampled from Aboriginal Canadians identified by the Census long forms.

For this thesis, the *DIDENTGM* APS variable was used to determine specific Aboriginal identity. Respondents of interest were those who answered "Single identity: Métis".

3.3: Data Collection

The 2006 APS was administered following the census collection. Census respondents who identified themselves as North American Indian, Métis, or Inuit or as having Aboriginal ancestry, registered Indian Status, or Band membership were sampled for the 2006 APS. In total, 61,041 were sampled and 48,921 responded (Statistics Canada, 2009).

Telephone interviews were the mode of data collection for most areas in Canada. However, personal interviews were conducted in Inuit regions, many areas in the North West Territories, and in Labrador.

3.4: Data Access

Data was accessed at the South Western Ontario Research Data Centre (SWORDC) at the University of Waterloo. Access to the required data received approval from the Social Sciences and Humanities Research Council (SSHRC). Please see **Appendix B** for the approval letter.

3.5: Variables

Leisure-time physical activity, active transportation physical activity, and occupational/household physical activity were the main dependent variables. Independent and control variables important to the study included geographic classification (urban or rural residence), provincial region, age, gender, highest level of education, annual household income, self-perceived health, body mass index, smoking status, binge alcohol consumption, knowledge

of an Aboriginal language, attendance at cultural events, membership in cultural organizations, and level of spirituality.

3.5.1: Dependent Variables

This thesis examined three different types of physical activity separately. As mentioned, the dependent variables were leisure-time physical activity, active transportation, and occupational/household physical activity.

Level of leisure-time physical activity participation was determined based on responses to question L 40. Question L 40 asked, "In a typical week, how much time do you spend doing physical activities outside of work that result in an increase in your heart rate and breathing?" Respondents could answer "none", "1-2 hours", "3-4 hours", "5-6 hours", "7-10 hours", "11 or more hours", "don't know", or "refused". This study dichotomized the leisure-time physical activity variable. Participation was classified as participating in less than three hours of leisure-time physical activity per week or as three or more hours of leisure-time activity per week. The choice to dichotomize the leisure-time physical activity variable at the three hour per week cutoff was based on the sample distribution and the CSEP exercise guidelines, which recommend at least 150 minutes of moderate to vigorous physical activity per week (CSEP, 2012). It is important to note that the cutoff used in this study for participating in "sufficient" leisure-time physical activity was more stringent than the CSEP exercise guidelines, exceeding the guidelines by thirty minutes per week.

Active transportation physical activity was assessed, based on the reported level of walking to work or while doing errands. Question L 41 asked, "In a typical week in the past three months, how many hours did you usually spend walking to work or to school or while doing

errands?" Respondents could answer "none", "less than 1 hour", "from 1 to 5 hours", "from 6 to 10 hours", "from 11 to 20 hours" or "more than 20 hours". This study recoded level of active transportation into three response levels (Less than 1 hour of walking per week, from 1 to 5 hours of walking per week, or more than 5 hours of walking per week). The three response levels were chosen based on the sample distribution so that approximately one third of the sample was in each category. The CSEP guidelines were less influential in determining active transportation response categories compared to leisure-time physical activity response levels. This is because it is harder to compare walking to the recommended 150 minutes of moderate to vigorous physical activity per week. According to the CSEP guidelines, walking is not considered moderate to vigorous activity unless it is done at a pace of three miles per hour or greater (CSEP, 2012).

In addition, occupational/household physical activity level was determined based on self-reported characteristics of daily activities or work habits. Question L 42 asked, "thinking back over the past 3 months, in a typical week, which of the following best describes your usual daily activities or work habits?" Possible answers were "usually sit during the day and don't walk around very much", "stand or walk quite a lot during the day but don't have to carry or lift things very often", "usually lift or carry light loads, or have to climb stairs or hills often" or "do heavy work or carry very heavy loads". In the analyses, level of occupational/household activity was recoded so that there were three response categories. Response categories represented occupational/household activity as "usually sits during the day and doesn't walk around much", "stands or walks quite a lot during the day but doesn't have to carry or lift things very often", or "usually lifts or carries light loads, climbs stairs or hills often, does heavy work or carries very heavy loads". The terms "occupational/household physical activity" and "occupational physical

activity" will be used interchangeably in this paper and it should be noted that both represent activity engaged in at work and/or during daily activities.

An overall measure of physical activity was not calculated because the three types of activity collected by the 2006 APS were quantified differently. Leisure-time activity and active transportation participation were collected in number of hours, whereas occupational/household activity level was not.

A potential limitation exists because physical activity levels were self-reported in the APS. Self-reported levels can be subject to bias and may be higher compared to levels that are objectively measured (Colley et al., 2011). Comparing self-reported physical activity levels to objectively measured activity levels can help to quantify this bias. For example, a systematic review of physical activity levels among Aboriginal peoples in Canada and the United states found that 27% of adults met physical activity recommendations when activity was self-reported. Only 9% met physical activity recommendations when accelerometers were used to measure activity levels (Foulds et al., 2013). However, it is important to consider that accelerometers cannot always capture activities accurately, and therefore may underestimate physical activity levels (Colley et al., 2011). **Chapter 5** discusses some of the flaws of the physical activity measurements used in the 2006 APS.

3.5.2: Independent Variables and Control Variables

Age, gender, geographic classification, highest level of educational attainment, and household income were independent variables considered in the study. Variables related to health, including self-perceived health, BMI, smoking status, and binge alcohol consumption were also of interest. In addition, elements of an Aboriginal-specific determinants of health

perspective were included in the analyses. The independent variables in this study were chosen because of their inclusion within a social determinants of health, Aboriginal-specific determinants of health, or an ecological model framework, as reviewed in section **2.4**. In addition, it was important to control for demographic, geographic, and socioeconomic variables, factors that have been shown to be associated with physical activity, when investigating the effects of modifiable health behaviours and Aboriginal-specific variables on the dependent variables. Health-related variables were also important to control for when examining the associations between Aboriginal-specific factors and the physical activity outcomes because we wanted to evaluate the associations while health-related factors were held constant. A summary of the variables included in this study, including which categories were used as references, is in **Table 1.**

3.5.2.1: Demographic Variables

Age and gender are demographic variables that were examined in this study. The sample was divided into three age categories in the statistical analyses (20 to 34, 35 to 49, and 50 to 64). Bryan et al. (2006) and Findlay (2011) coded for similar age grouping in their research that examined physical activity participation among Aboriginal Canadians.

3.5.2.2: Geographic Classification

Four different levels of geographic classification (urban/rural) were included in this study by recoding the *CACMACOD* variable attached to the survey. Geographic classification (urban/rural) was determined based on residence in Census Metropolitan Areas (CMAs) (100,000 people or more), Census Agglomerations (CAs)(10,000 to <100,000 people), rural with

moderate to high metropolitan influence, or rural with no to weak metropolitan influence. A regional variable was also included in the study (Atlantic, Quebec, Ontario, Prairies, British Columbia, Territories).

3.5.2.3: Education and Income

Highest level of educational attainment and annual household income were socioeconomic variables included in this study by recoding the *DHLOSP* and *HHINC* variables, respectively. The highest level of educational attainment variable was recoded into three categories (less than high school diploma, high school diploma or high school equivalency, or some post secondary or more). Annual household income was coded into quartiles. The categorizations used in this study for the educational attainment and annual household income variables were similar to the classifications that were used by Bryan et al. (2006) and Findlay (2011) in their research on physical activity levels among Aboriginal Canadians.

3.5.2.4: Aboriginal-Specific Determinants of Health

Knowledge of an Aboriginal language, attendance at Métis cultural events, membership within a Métis cultural organization, and level of spirituality were variables examined in this study.

Knowledge of an Aboriginal language was determined based on responses to survey questions *B01* and *K03*. Question *B01* asked, "Do you speak an Aboriginal language?" and question *K03* asked "Is any Aboriginal language, such as Michif, Cree, Saulteaux, or Dene, ever spoken at home?" Possible responses to questions *B01* and *K03* were either "yes" or "no".

Attendance at Métis cultural events was assessed based on responses to survey question *K05*. Question *K05* asked, "When is the last time you attended a Métis cultural event, festival, pilgrimage, or seen Métis artists perform?" The response categories on the APS were recoded for this study to create four different levels of attendance. Possible responses were "attended less than 1 year ago", "attended from 1 to 5 years ago", "attended 5 or more years ago", or "never attended".

To assess membership within a Métis cultural, social, or political organization, responses to survey question *K08* were analyzed. Question *K08* asked, "Are you a member of any Métis cultural, social or political organization or association, such as a Métis dance group, Métis local or Métis Nation organization?" Possible responses to question *K08* were either "yes or "no".

Level of spirituality was assessed using question *L69* of the APS, which asked, "How religious or spiritual a person do you consider yourself to be?" Possible responses were "very", "moderately", "not very", or "not at all".

3.5.2.5: Health

Self-perceived health, smoking status, binge drinking, and BMI were health-related variables included in this study.

Question *E01* on the APS collected data on self-perceived health by asking, "In general, would you say your health is...?" Possible responses were "excellent", "very good", "good", "fair", or "poor". The response categories for the self-perceived health variable were changed little from the categories included on the survey, other than collapsing poor self-perceived health and fair self-perceived health into one category.

Question *E33*, which asked, "At the present time do you smoke cigarettes daily, occasionally or not at all?" was used to assess smoking status. Smoking status was classified as either non-smoker or smoker. This study classified respondents as smokers if they responded that they were a daily or an occasional smoker.

Question *E45* on the APS captured data on frequency of binge drinking by asking, "How often in the past 12 months have you had 5 or more drinks on one occasion?" Possible responses were "never", "less than once per month", "once per month", "2 to 3 times per week", 4 to 6 times per week", or "every day". The variable was recoded for this study, based on the Statistics Canada definition of heavy drinking, which is defined as having five or more drinks on an occasion once per month or more (Statistics Canada, 2014).

Variable *DSW_ADT* determined BMI based on the respondents' self-reported height and weight. For this study, BMI was coded into three response categories (underweight/normal weight, overweight, or obese). Coding for three BMI response categories required collapsing "underweight" and "normal weight" categories into one. In addition, the three classes of obesity (class I to class III) were collapsed to create one category (obese).

For each of the variables included in this study, "not stated", "don't know", and "refused" responses to survey questions were deleted. A summary of the number of missing cases per variable is in **Table 2.**

Table 1: Summary of Response and Predictor Variables

Variable	Response Categories
Leisure-time physical activity	Binary Logistic Regression: • 3 or more hours of leisure-time activity per week • Less than 3 hours of leisure-time activity per week*
Active transportation physical activity	Ordinal Logistic Regression: • More than 5 hours of walking per week • From 1 to 5 hours of walking per week • Less than 1 hour of walking per week*
Occupational activity	Ordinal Logistic Regression: • Usually lifts or carries light loads, climbs stairs or hills often, does heavy work or carries very heavy loads • Stands or walks quite a lot during the day but doesn't have to carry or lift things very often • Usually sits during the day and doesn't walk around very much*
Gender	• Male* • Female
Age	• 20 to 34* • 35 to 49 • 50 to 64
Household income quartiles	• Less than $35,000 • $35,000 to $60,899 • $60,900 to $95,899 • Greater than $95,899*
Urban/Rural	• CMA* • CA • Rural with moderate to high MIZ • Rural with no to weak MIZ
Region	• Atlantic • Quebec • Ontario • Prairies • British Columbia • Territories

Table 1 Continued.

Variable	Response Category
Highest level of educational attainment	• Less than high school diploma • High school diploma or high school equivalency • Some post-secondary or more*
Self-perceived health	• Excellent self-perceived health • Very good self-perceived health • Good self-perceived health • Poor or fair self-perceived health*
Smoking status	• Non-smoker* • Daily or occasional smoker
Binge Drinking	• Does not consume 5 or more drinks once per month or more* • Consumes 5 or more drinks once per month or more
Body Mass Index	• Underweight or normal weight* • Overweight • Obese
Speaks an Aboriginal Language	• Speaks an Aboriginal language • Does not speak an Aboriginal language*
Aboriginal Language spoken at home	• An Aboriginal language is spoken at home • An Aboriginal language is not spoken at home*
Last time attending a Métis cultural event	• Less than 1 year ago • From 1 to 5 years ago • 5 or more years ago • Never*
Member of a Métis cultural, social or political organization	• No membership* • Membership
Level of spirituality	• Very religious or spiritual • Moderately religious or spiritual • Not very religious or spiritual • Not at all religious or spiritual*

**Refers to reference category*

3.6: Statistical Analysis

This study used Statistical Analysis System (SAS), version 9.3, for statistical analysis. Chi square procedures were used to obtain descriptive statistics and to examine bivariate associations. Procedures that produced frequency counts required rounding in accordance with Statistics Canada rules for getting statistical output vetted from Research Data Centers. Frequency counts for descriptive statistics were rounded to the nearest ten for all variables other than the "urban/rural" variable, which required rounding to base 50. A scaled weight was used for chi square procedures.

A set of logistic regression models was developed for each of the three dependent variables. Logistic regression was used for analysis, as a number of researchers have used this method for predicting levels of physical activity (Findlay, 2011; Bryan et al., 2006; Thompson et al., 2003; Fischer, 1999). Unlike linear regression, logistic regression does not have assumptions regarding normality of distribution, linearity, or homoscedasticity. In addition, logistic regression is appropriate when it is expected that one or more of the independent variables is unlikely to be linearly related to the dependent variable (Tabachnick & Fidell, 2007). Despite having fewer assumptions, some power may be lost by using logistic regression over multiple linear regression techniques (Tabachnick & Fidell, 2007).

The first logistic regression model of each set consisted of demographic and geographic variables (age, gender, urban/rural residence, region). Health related variables (self-perceived health, smoking status, binge drinking, and body mass index) were added to the second model of each set. Socioeconomic variables (annual household income, highest level of educational attainment) were added to the third model of each set. Lastly, Aboriginal-specific variables (knowledge of an Aboriginal language, Aboriginal language spoken at home, last time attending

a Métis cultural event, membership within a Métis organization, spirituality) were added to the fourth model. The fourth model was a full model that included all the variables of interest.

Each of these models was estimated using 1000 sets of bootstrap weights that were specifically generated by Statistics Canada for the data set (Statistics Canada, 2009). This was necessary to account for sampling error, error due to differences between the sample estimates and estimates that would be obtained if the entire population had been sampled (Statistics Canada, 2009). The bootstrap weights were developed by Statistics Canada for the APS, using a method to account for the survey's stratified two-phase sample design (Statistics Canada, 2009). This study used the Balanced Repeated Replication (BRR) procedure in SAS version 9.3 to produce bootstrap variance estimates from the APS bootstrap weights. Designating the bootstrap weights as the weights to be used by the BRR procedure allows for bootstrap estimates to be calculated (Phillips, 2004). In accordance with the 2006 APS user guidelines, this study used a FAY adjustment factor of 0.75 when using the BRR procedure in SAS (Statistics Canada, 2009). Using the FAY adjustment factor was necessary when running the models with the bootstrap weights in order to obtain correct variance estimates for the survey's sampling design (Statistics Canada, 2009).

Other logistic regression models were developed to test the effect of adding or removing certain variables. For example, annual household income was removed from the models that included the socioeconomic variables to test how its removal would influence the significance of educational attainment. Similarly, the "Aboriginal language spoken at home" variable was removed from the full models to test how its removal would influence the significance of the "knowledge of an Aboriginal language" variable. These results are summarized in **Chapter 4**.

Models were also developed to investigate age and gender interactions. Separate models were estimated to test all possible age and gender interactions. Only age and gender interactions that were significant were included in the full models. These full models were run using bootstrap weights, using the procedure described above.

Multivariate models were evaluated for goodness-of-fit by calculating the likelihood ratio statistic. Calculating the difference in the log-likelihood scores compared candidate models and provided an indication of whether predictors were improving model fit (Tabachnick & Fidell, 2007). Odds ratios represented the likelihood of participating in a certain level of physical activity. Confidence intervals for the odds ratios produced by SAS were interpreted.

Model diagnostics were completed to verify that the underlying assumptions of the logistics regression models were not violated. Residual plots and leverage plots were created. Cook's distance was examined to determine the presence of any outliers and their effect on the estimated regression coefficients.

Chapter 4: Quantitative Results

This section describes the study's quantitative results, including sample characteristics, bivariate associations, and a description of the missing cases by variable type. In addition, the results of the binary and ordinal logistic regression analyses, model fit procedures, and regression analyses with interaction terms are illustrated.

4.1: Sample Characteristics

A total of 8,330 adult Métis responded to the 2006 APS and Métis supplement, 6,740 adults between the ages of 20 to 64. Once missing cases were deleted, 5,580 adult Métis were included in the statistical analyses. This section summarizes the approximate percentages of missing cases per variable. In addition, an overview is provided of demographic, geographic, health-related, socioeconomic, and Aboriginal-specific variables and the distribution of responses across the sample for leisure-time physical activity, active transportation, and occupational physical activity, respectively.

As shown in **Table 3** approximately 33% of the sample was between the ages of 20 and 34. Close to 42% were between the ages of 35 and 49 and just over 25% were between 50 and 64.

Almost 70% of the sample lived in urban areas, with 49% living in CMAs and 20% living in CAs. Close to 13% lived in rural areas with moderate to strong MIZ and just shy of 18% lived in rural areas with no to weak MIZ. Approximately 22% lived in Ontario, 6% in the Atlantic region, 10% in Quebec, 47% in the Prairies, 15% in British Columbia, and about 1% in the Territories.

Excellent self-perceived health was reported by about 23% of the sample. Close to 37% reported very good self-perceived health, 26% reported good self-perceived health, and about 15% reported their health being fair or poor. Close to 42% of the sample reported being a smoker, while 58% were non-smokers. Binge drinking was reported by approximately 23% of the sample. In terms of BMI, 36% of the sample was classified as underweight or normal weight, 37% were overweight, and 28% were obese.

Close to 20% of the sample had less than a high school education. Approximately 17% had attainted high school or high school equivalency and 64% had some post-secondary education or more. A quarter of the sample had an annual household income of less than $35,000. Twenty-five percent lived in a household with an annual income of $35,000 to $60,899, another quarter had an annual household income of $60,900 to $95,899, and the highest quartile lived in households with annual incomes greater than $95,899.

Only 8.6% of the sample spoke an Aboriginal language, while 91.4% did not. Just over 10% of the sample lived in a home where an Aboriginal language is spoken. Close to 28% of the sample had attended a Métis cultural event less than one year ago. Just shy of 23% had attended a Métis cultural event between one and five years ago. Nineteen percent had attended an event more than five years ago and 30% had never attended a Métis cultural event. Approximately 20% were members of a Métis cultural or political organization.

Twenty-two percent of the sample considered themselves to be “very religious or spiritual”. Slightly less than 47% reported being moderately religious or spiritual, 18% reported being “not very religious or spiritual”, and 13% said they were “not at all religious or spiritual”.

Table 2: Approximate Percent of Missing Cases by Variable Type

Variable	% Missing
Urban/Rural Geography	0.0
Regional Geography	0.0
Leisure-time Physical Activity	6.0
Active Transportation	6.0
Occupational Physical Activity	6.0
Self-perceived Health	0.0
Smoking Status	1.0
Binge Drinking	3.0
Body Mass Index	4.0
Educational Attainment	0.0
Annual Household Income	0.0
Speaks an Aboriginal Language	0.0
Aboriginal Language Spoken at Home	5.0
Last Time Attending a Métis Cultural Event	6.0
Member of a Métis organization	5.0
Level of Spirituality	6.0

Note: Approximate percentage was rounded to the closest percentage point and was calculated based on the total number of Métis adults in the subsample, using weighted data. Initial sample: N = 8,330. Subsample of Métis aged 20 to 64: N = 6,740. After excluding missing data from subsample: N = 5,580.

Table 3: Characteristics of Sample and Bivariate Associations for Leisure-Time Physical Activity

	N	%	% 3 or more hours/week	% Less than 3 hours/week	P-value
Physical Activity Category (N=5580)					
3 or more hours/week	2870	51.43	---	---	**---**
Less than 3 hours/week	2710	48.57	---	---	**---**
Gender					
Female	2950	52.87	46.78	53.22	**0.0047**
Male	2630	47.13	50.57	49.43	
Age					
Age group 20-34	1840	32.97	56.52	43.48	**<0.0001**
Age group 35-49	2330	41.76	46.35	53.65	
Age group 50-64	1410	25.27	41.84	58.16	
Urban/rural geography					
CMA	2750	49.11	49.09	50.91	0.1023
CA	1100	19.64	45.45	54.55	
Rural with moderate to strong MIZ	750	13.39	46.67	53.33	
Rural with no to weak MIZ	1000	17.86	50.00	50.00	
Regional Geography					
Ontario	1200	21.54	47.50	52.50	**0.0014**
Atlantic	310	5.57	51.61	48.39	
Quebec	550	9.87	45.45	54.55	
Prairies	2630	47.04	47.33	52.67	
British Columbia	840	15.08	54.76	45.24	
Territories	50	0.90	40.00	60.00	
Self-perceived health					
Excellent	1270	22.72	61.42	38.58	**<0.0001**
Very good	2060	36.85	49.51	50.94	
Good	1440	25.76	43.75	56.25	
Fair or poor	820	14.67	35.37	64.63	
Smoking status					
Non-smoker	3260	58.42	51.53	48.47	**<0.0001**
Smoker	2320	41.58	44.40	55.60	

Table 3 Continued.

	N	%	% 3 or more hours/week	% Less than 3 hours/week	P-value
Binge Drinking					
No	4280	76.70	48.13	51.87	0.2376
Yes	1300	23.30	50.00	50.00	
Body mass index					
Underweight or normal weight	2000	35.84	52.50	47.50	**<0.0001**
Overweight	2040	36.56	50.49	49.51	
Obese	1540	27.60	40.91	59.09	
Highest level of education					
Less than high school	1090	19.50	42.20	57.80	**<0.0001**
High school or high school equivalency	950	16.99	47.37	52.63	
Some post-secondary or more	3550	63.51	50.70	49.30	
Household income					
Less than $35,000	1320	23.66	44.70	55.30	**<0.0001**
$35,000 to $60,899	1410	25.27	47.52	52.38	
$60,900 to $95,899	1440	25.81	47.22	52.78	
Greater than $95,899	1410	25.27	54.61	45.39	
Speaks an Aboriginal Language					
No	5100	91.40	48.63	51.37	0.7658
Yes	480	8.60	47.93	52.08	
Aboriginal language spoken at home					
No	5020	89.96	48.61	51.39	0.8605
Yes	560	10.04	48.21	51.79	
Last time attending a Métis cultural event					
Less than 1 year ago	1560	27.86	51.92	48.08	**0.0044**
From 1 to 5 years ago	1270	22.68	48.82	51.18	
5 or more years ago	1060	18.93	48.11	51.89	
Never	1710	30.54	45.61	54.39	

Table 3 Continued.

	N	%	% 3 or more hours/week	% Less than 3 hours/week	P-value
Member of a Métis cultural or political organization					
No	4480	80.29	47.99	52.01	0.0827
Yes	1100	19.71	50.91	49.09	
Level of spirituality					
Very religious or spiritual	1240	22.22	50.00	50.00	0.1999
Moderately religious or spiritual	2600	46.59	47.69	52.31	
Not very religious or spiritual	1020	18.28	50.98	49.02	
Not at all religious or spiritual	720	12.90	47.22	52.78	

Notes: Bolded values are significant at a level of $p < 0.05$. Weighting was done using scaled weights. CMA = Census Metropolitan Area. CA = Census Agglomeration. MIZ = Metropolitan Influence Zone.

In terms of leisure-time physical activity participation, 51.43% of Métis adults reported participating in three or more hours of activity per week and 48.57% reported participating in less than three hours per week.

Chi-square tests of independence revealed that women were less likely than men to participate in three or more hours of leisure-time physical activity per week. Younger age groups were more likely to participate in three or more hours of leisure-time physical activity per week. There were no significant differences in leisure-time physical activity based on urban/rural geography. However, Métis adults from British Columbia were more likely to achieve three or more hours of activity per week than Métis adults from Ontario. Métis adults from the Territories were less likely to meet or exceed three hours of leisure-time activity per than those from Ontario.

The likelihood of participating in three or more hours of leisure-time physical activity per week increased with higher ratings of self-perceived health. Regarding smoking status, non-smokers were more likely than smokers to meet or exceed three hours of activity on a weekly

basis. However, there were no significant differences in level of activity between Métis adults who answered, “yes” to binge drinking compared to those who responded “no” to binge drinking. Considering BMI, Métis adults in the underweight/normal weight category and overweight category were more likely to participate in three or more hours of leisure-time physical activity than obese Métis adults.

The likelihood of participating in three or more hours of leisure-time physical activity per week increased with higher levels of educational attainment. Similarly, greater annual household income was associated with a greater likelihood of achieving three or more hours of activity per week.

Speaking an Aboriginal language or having an Aboriginal language spoken at home did not appear to be associated with level of leisure-time physical activity. There were also no significant differences in activity level among Métis adults who were members of a Métis cultural or political organization. In addition, level of spirituality did not influence activity level. However, Métis adults who had attended a Métis cultural event, particularly if they had attended more recently, were more likely to participate in three or more hours of leisure-time activity per week compared to those who had not attended.

Table 4: Characteristics of Sample and Bivariate Associations for Active Transportation

	N	%	% Less than 1 hour/week	% 1 to 5 hours/week	% More than 5 hours/week	P-value
Physical Activity Category (N=5580)						
Less than 1 hour/week	1880	33.69	---	---	---	---
1 to 5 hours/week	2140	38.35	---	---	---	---
More than 5 hours/week	1560	27.96	---	---	---	---
Gender						
Female	2940	52.78	29.25	41.50	29.25	**<0.0001**
Male	2630	47.22	38.40	34.98	26.62	
Age						
Age group 20-34	1830	32.80	30.05	39.89	30.05	**<0.0001**
Age group 35-49	2330	41.76	34.33	36.91	28.76	
Age group 50-64	1420	25.45	37.32	38.73	23.94	
Urban/rural geography						
CMA	2750	49.11	32.73	40.00	27.27	**0.0012**
CA	1100	19.64	31.82	36.36	31.82	
Rural with moderate to strong MIZ	800	14.29	37.50	37.50	25.00	
Rural with no to weak MIZ	950	16.96	31.58	36.84	31.58	
Regional Geography						
Ontario	1200	21.51	33.33	38.33	28.33	**0.0454**
Atlantic	310	5.56	35.48	38.71	25.81	
Quebec	560	10.04	37.50	41.07	21.43	
Prairies	2620	46.95	32.44	38.17	29.39	
British Columbia	840	15.05	34.52	36.90	28.57	
Territories	50	0.90	40.00	40.00	20.00	
Self-perceived health						
Excellent	1260	22.54	34.13	38.10	27.28	**0.0078**

Table 4
Continued.

	N	%	% Less than 1 hour/week	% 1 to 5 hours/week	% More than 5 hours/week	P-value
Self-perceived health continued						
Very good	2070	37.03	31.40	39.61	28.99	
Good	1440	25.76	32.64	38.19	29.17	
Fair or poor	820	14.67	39.02	36.59	24.39	
Smoking status						
Non-smoker	3260	58.42	34.36	40.18	25.46	**<0.0001**
Smoker	2320	41.58	32.76	35.78	31.47	
Binge drinking						
No	4290	76.74	32.87	39.16	27.97	0.0615
Yes	1300	23.26	36.15	36.15	27.69	
Body mass index						
Underweight or normal weight	2000	35.91	29.50	39.50	31.00	**<0.0001**
Overweight	2040	36.62	34.41	38.73	26.96	
Obese	1530	27.47	37.91	36.60	25.49	
Highest level of education						
Less than high school	1080	19.39	37.96	32.41	29.63	**0.0001**
High school or high school equivalency	950	17.06	33.68	37.89	28.42	
Some post-secondary or more	3540	63.55	32.49	40.40	27.12	
Household income						
Less than $35,000	1330	23.84	30.08	37.59	32.33	**0.0001**
$35,000 to $60,899	1410	25.27	35.46	36.17	28.37	
$60,900 to $95,899	1440	25.81	34.03	38.89	27.08	
Greater than $95,899	1400	25.09	35.00	40.71	24.39	
Speaks an Aboriginal Language						
No	5110	91.58	34.05	38.75	27.20	**0.0002**
Yes	470	8.42	29.79	34.04	36.17	

Table 4
Continued.

	N	%	% Less than 1 hour/week	% 1 to 5 hours/week	% More than 5 hours/week	P-value
Aboriginal language spoken at home						
No	5020	89.80	34.26	38.65	27.09	**0.0001**
Yes	570	10.20	28.07	36.84	35.09	
Last time attending a Métis cultural event						
Less than 1 year ago	1560	27.96	30.13	39.74	30.13	**<0.0001**
From 1 to 5 years ago	1270	22.76	33.07	37.80	29.13	
5 or more years ago	1050	18.82	32.38	38.10	29.52	
Never	1700	30.47	38.24	37.65	24.12	
Member of a Métis cultural or political organization						
No	4480	80.29	34.38	37.95	27.68	0.0930
Yes	1100	19.71	30.91	40.00	29.09	
Level of spirituality						
Very religious or spiritual	1240	22.22	31.45	37.90	30.65	0.0707
Moderately religious or spiritual	2600	46.59	33.85	38.46	27.69	
Not very religious or spiritual	1020	18.28	33.33	40.20	26.47	
Not at all religious or spiritual	720	12.90	37.50	36.11	26.39	

Notes: Bolded values are significant at a level of $p < 0.05$. Weighting was done using scaled weights. CMA = Census Metropolitan Area. CA = Census Agglomeration. MIZ = Metropolitan Influence Zone.

With respect to active transportation, approximately 34% of the sample reported participating in less than one hour of activity per week. Thirty-eight percent participated in one to five hours per week and 28% participated in more than five hours of active transportation per week.

Chi-square tests of independence indicated that women were more likely than men to participate in higher levels of active transportation. Women were more likely to participate in one to five hours per week and more than five hours per week than men were. More men than women participated in less than one hour of active transportation per week. Increasing age predicted lower levels of active transportation.

The chi-square tests indicated a slightly greater level of active transportation among Métis adults in urban areas. Métis adults who resided in a rural area with moderate to strong MIZ were most likely to participate in the lowest level of active transportation compared to those who lived in the other urban/rural geographic categories. Métis adults who lived in CMAs were most likely to participate in one to five hours of active transportation per week and those living in CAs were the most likely to participate in the highest level of active transportation. There were few regional differences in terms of level of active transportation; however, Métis adults living in the Territories were most likely to participate in the lowest level of active transportation and least likely to participate in the highest level of active transportation. It is important to note that the apparent significant difference in the level of active transportation among adult Métis living in the Territories might have been influenced by a very low sample size in this response category.

Levels of active transportation were generally higher among Métis adults with better self-perceived health. In addition, a significant inverse relationship existed between active transportation and BMI. Métis adults who were obese were most likely to participate in the

lowest level of active transportation, while underweight/normal weight Métis adults were most likely to participate in more than five hours of active transportation per week. Somewhat unexpectedly, smokers seemed to be more likely to participate in the highest level of active transportation compared to non-smokers, although non-smokers appeared significantly more likely to participate in one to five hours (middle response category) compared to smokers. There were no significant differences in the level of active transportation among binge drinkers and non-binge drinkers.

Lower educational attainment appeared to be associated with lower levels of active transportation. Métis adults with less than a high school education were most likely to participate in the lowest level of active transportation, while those with some post-secondary education or more were significantly more likely to participate in one to five hours of active transportation per week compared to those with less educational attainment. Differences between educational groups in terms of likelihood of participating in five or more hours of active transportation per week were not significantly different.

An interesting association seemed to exist between annual household income and level of active transportation among adult Métis. Members of the lowest quartile of annual household income were more likely than members of other income quartiles to participate in less than one hour of active transportation per week. Interestingly, members of this same group were also the most likely to participate in more than five hours of active transportation per week. Métis adults with the highest annual household income were the most likely to participate in one to five hours of active transportation, the middle level of participation.

Métis adults who spoke an Aboriginal language were more likely to be in the highest category of active transportation level and less likely to be in the lowest or middle category of

participation than those who do not speak an Aboriginal language. Similarly, Métis adults living in homes where an Aboriginal language was spoken were more likely to be in the highest category of active transportation participation and less likely to be in the lowest or middle category of participation than those living in homes where an Aboriginal language was not spoken. More recent attendance at a Métis cultural event appeared to be associated with participating in more active transportation. Those who had never attended a Métis cultural event were most likely to be in the lowest category of participation, whereas those who had attended a cultural event less than 1 year ago were marginally more likely to be in the middle or highest category of active transportation participation. Being a member of a Métis cultural or political organization did not appear to be associated with active transportation level. In addition, level of spirituality did not seem to be related to level of participation.

Table 5: Characteristics of Sample and Bivariate Associations for Occupational Activity

	N	%	Usually sit during the day and don't walk around very much	Stand or walk quite a lot during the day but don't have to carry or lift things very often	Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	P-value
Physical Activity Category (N=5570)						
Usually sit during the day and don't walk around very much	1250	22.44	---	---	---	
Stand or walk quite a lot during the day but don't have to carry or lift things very often	2170	38.96	---	---	---	
Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	2150	38.60	---	---	---	
Gender						
Female	2950	52.87	23.73	44.07	32.20	**<0.0001**
Male	2630	47.13	20.91	33.46	45.63	
Age						
Age group 20-34	1840	32.97	19.57	34.78	45.65	**<0.0001**
Age group 35-49	2320	41.58	23.28	40.09	36.64	
Age group 50-64	1420	25.45	24.65	42.96	32.39	
Urban/rural geography						
CMA	2750	49.55	25.45	38.18	36.36	**<0.0001**
CA	1100	19.82	22.73	36.36	40.91	
Rural with moderate to strong MIZ	750	13.51	20.00	40.00	40.00	

Table 5 Continued.

	N	%	Usually sit during the day and don't walk around very much	Stand or walk quite a lot during the day but don't have to carry or lift things very often	Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	P-value
Urban/rural geography continued						
Rural with no to weak MIZ	950	17.12	15.79	42.11	42.11	
Regional Geography						
Ontario	1200	21.5	25.00	38.33	36.67	**0.0097**
Atlantic	310	5.56	16.13	41.94	41.94	
Quebec	550	9.86	20.00	41.82	38.18	
Prairies	2630	47.1	22.43	39.16	38.40	
British Columbia	830	14.8	21.69	36.14	42.17	
Territories	60	1.08	33.33	33.33	33.33	
Self-perceived health						
Excellent	1260	22.58	18.25	40.48	41.27	**<0.0001**
Very good	2050	36.74	20.00	38.05	41.95	
Good	1440	25.81	22.92	37.50	39.58	
Fair or poor	830	14.87	34.94	40.96	24.10	
Smoking status						
Non-smoker	3260	58.42	23.93	40.18	35.89	**<0.0001**
Smoker	2320	41.58	20.69	37.07	42.24	
Binge drinking						
No	4280	76.84	22.66	41.12	36.21	**<0.0001**
Yes	1290	23.16	21.71	31.78	46.51	
Body mass index						
Underweight or normal weight	2010	35.96	20.90	40.80	38.31	**<0.0001**
Overweight	2040	36.49	20.10	37.75	42.16	
Obese	1540	27.55	27.27	38.31	34.42	

Table 5 Continued.

	N	%	Usually sit during the day and don't walk around very much	Stand or walk quite a lot during the day but don't have to carry or lift things very often	Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	P-value
Highest level of education						
Less than high school	1080	19.39	19.44	38.89	41.67	**<0.0001**
High school or high school equivalency	950	17.06	16.84	38.95	44.21	
Some post-secondary or more	3540	63.55	24.86	38.98	36.16	
Household income						
Less than $35,000	1310	23.48	23.66	37.40	38.93	**<0.0001**
$35,000 to $60,899	1410	25.27	19.86	39.72	40.43	
$60,900 to $95,899	1440	25.81	20.14	38.19	41.67	
Greater than $95,899	1420	25.45	26.06	40.14	33.80	
Speaks an Aboriginal Language						
No	5100	91.56	22.55	39.02	38.43	0.6665
Yes	470	8.44	21.28	38.30	40.43	
Aboriginal language spoken at home						
No	5020	89.90	22.71	39.04	38.25	0.5383
Yes	570	10.20	21.05	38.60	40.35	
Last time attending a Métis cultural event						
Less than 1 year ago	1560	28.01	21.79	41.03	37.18	0.1228
From 1 to 5 years ago	1260	22.62	23.02	37.30	39.68	
5 or more years ago	1050	18.85	23.81	36.19	40.00	
Never	1700	30.52	21.18	40.59	38.24	

Table 5 Continued.

	N	%	Usually sit during the day and don't walk around very much	Stand or walk quite a lot during the day but don't have to carry or lift things very often	Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	P-value
Member of a Métis cultural or political organization						
No	4480	80.29	21.88	38.84	39.29	0.0919
Yes	1100	19.71	24.55	39.09	36.36	
Level of spirituality						
Very religious or spiritual	1240	22.18	22.58	41.13	36.29	**0.0005**
Moderately religious or spiritual	2610	46.69	21.46	39.85	38.70	
Not very religious or spiritual	1020	18.25	21.57	39.22	39.22	
Not at all religious or spiritual	720	12.88	27.78	31.94	40.28	

Notes: Bolded values are significant at a level of $p < 0.05$. Weighting was done using scaled weights. CMA = Census Metropolitan Area. CA = Census Agglomeration. MIZ = Metropolitan Influence Zone.

With respect to occupational physical activity, approximately 22% of the sample reported that they "usually sit during the day and don't walk around very much". Approximately 39% of the sample reported somewhat more occupational physical activity, responding that they "stand or walk quite a lot during the day but don't have to carry or lift things very often". The remaining 39% of the sample reported the highest level of occupational activity, indicating that they "usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads".

Chi square tests of independence indicated that men were significantly more likely than women to be in the highest category of occupational physical activity level. Women were more

likely than men to be the lowest and middle category of occupational activity. Overall, occupational activity level appeared greatest among younger adult Métis. The youngest group, aged 20 to 34, was significantly more likely to be in the highest category of activity compared to the other age groups. Métis adults aged 50 to 64 were most likely to be in the lowest category of occupational physical activity. Furthermore, occupational activity level appeared lowest in urban areas and highest in rural areas. In terms of regional geography, chi square tests revealed that those living in British Columbia were the most likely to be in the highest category of occupational activity. Métis adults from the Atlantic region were most likely to be in the middle category of occupational activity, although differences between most regions were small. Respondents from Ontario and the Territories were most likely to report the lowest levels of occupational activity, although results from the Territories response category might have been significantly influenced by a small sample size.

Chi square tests of independence demonstrated that higher levels of self-perceived health appeared to be associated with higher levels of reported occupational activity. Furthermore, adult Métis who reported the highest levels of occupational activity were more likely to be smokers than non-smokers. Non-smokers were more likely to report being in the lowest and middle levels of occupational activity compared to smokers. In addition, binge drinkers were more likely to report participating in the highest level of occupational activity compared to those who did not report binge drinking. Prevalence of binge drinking was similar among Métis adults who reported the lowest levels of occupational activity and lower among those who reported moderate amounts of occupational physical activity.

Lower levels of educational attainment were associated with higher levels of occupational physical activity. Adult Métis with less than a high school education or a high

school education were significantly more likely to participate in the highest level of occupational activity compared to adult Métis with some post-secondary education or more. Those with some post-secondary education or more were significantly more likely to participate in the lowest level of occupational physical activity compared to those with lower educational attainment. In terms of annual household income, the chi square test of independence indicated that adult Métis in the highest income quartile were the most likely to participate in the lowest levels of occupational physical activity. Those in the highest annual household income quartile were also the least likely to participate in the highest level of occupational physical activity. Differences in annual household income were small among those who reported moderate amounts of occupational physical activity.

According to chi square tests, speaking an Aboriginal language or living in a household where an Aboriginal language was spoken were not associated with significant differences in reported level of occupational physical activity. In addition, attendance at Métis cultural events did not appear to be associated with the reported level of occupational physical activity. Furthermore, being a member of a Métis cultural or political organization was not associated with differences in occupational physical activity level. Interestingly, level of spirituality did appear to be correlated with the reported level of occupational physical activity. Those who reported being "not at all religious or spiritual" were the most likely to be in the lowest or the highest category of occupational activity. Adult Métis who stated they were "very religious or spiritual" were the most likely to participate in moderate occupational activity.

4.2: Logistic Regression Models

A set of logistic regression models was developed for each of the three dependent variables using a sequential logistic regression method. **Tables 6**, **7**, and **8** show results for leisure-time physical activity, active transportation, and occupational activity, respectively. Displayed are odds ratios and 95% confidence intervals (CI) for all independent variables. The first model of each set consisted of demographic and geographic variables (age, gender, urban/rural, and regional geography). Health related variables (self-perceived health, smoking status, binge drinking, and body mass index) were added to the second set of models. The third model of each set was developed by adding socioeconomic variables (annual household income and highest level of educational attainment). Step four consisted of adding Aboriginal-specific variables (knowledge of an Aboriginal language, Aboriginal language spoken at home, last time attending a Métis cultural event, member of a Métis cultural, social or political organization, and level of spirituality). **Table 9** summarizes the significance of the associations between the main correlates and all three types of physical activity.

Table 6: Binary Logistic Regression Model Predicting Leisure-time Physical activity among Métis Adults aged 20 to 64

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Demographic and Geographic Variables				
Female	**0.839 (0.728, 0.968)**	**0.823 (0.710, 0.954)**	**0.822 (0.708, 0.954)**	**0.816 (0.702, 0.948)**
Male	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age group 20-34	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age group 35-49	**0.648 (0.556, 0.756)**	**0.713 (0.610, 0.834)**	**0.710 (0.606, 0.831)**	**0.688 (0.587, 0.808)**
Age group 50-64	**0.538 (0.451, 0.642)**	**0.628 (0.521, 0.757)**	**0.625 (0.517, 0.754)**	**0.600 (0.494, 0.727)**
Urban/Rural Geography				
CMA	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
CA	0.872 (0.724, 1.051)	0.903 (0.748, 1.089)	0.908 (0.752, 1.095)	0.907 (0.749, 1.097)
Rural with moderate to strong MIZ	0.963 (0.791, 1.171)	0.978 (0.804, 1.191)	0.998 (0.819, 1.216)	0.987 (0.811, 1.202)
Rural with no to weak MIZ	1.048 (0.874, 1.256)	1.092 (0.910, 1.311)	1.121 (0.933, 1.347)	1.116 (0.924, 1.347)
Regional Geography				
Ontario	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Atlantic	1.231 (0.981, 1.650)	1.208 (0.898, 1.627)	1.236 (0.917, 1.667)	1.272 (0.939, 1.724)
Quebec	0.981 (0.742, 1.297)	0.920 (0.697, 1.214)	0.943 (0.713, 1.246)	0.963 (0.730, 1.271)
Prairies	0.946 (0.788, 1.135)	0.967 (0.804, 1.164)	0.978 (0.813, 1.177)	0.935 (0.773, 1.132)
British Columbia	**1.338 (1.056, 1.695)**	**1.295 (1.023, 1.640)**	**1.304 (1.030, 1.651)**	**1.300 (1.024, 1.650)**
Territories	0.728 (0.514, 1.032)	0.715 (0.502, 1.019)	**0.679 (0.475, 0.972)**	**0.629 (0.437, 0.907)**
Health Related Variables				
Self-Perceived Health				
Excellent	---	**2.264 (1.785, 2.871)**	**2.143 (1.681, 2.733)**	**2.177 (1.705, 2.778)**

Table 6 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Self-Perceived Health Continued				
Very good	---	**1.524 (1.231, 1.887)**	**1.453 (1.168, 1.808)**	**1.464 (1.174, 1.825)**
Good	---	**1.286 (1.019, 1.623)**	1.250 (0.989, 1.580)	**1.269 (1.003, 1.607)**
Fair or poor	---	1.00 (--)	1.00 (--)	1.00 (--)
Smoking Status				
Non-smoker	---	1.00 (--)	1.00 (--)	1.00 (--)
Smoker	---	**0.783 (0.680, 0.902)**	**0.810 (0.702, 0.935)**	**0.807 (0.699, 0.932)**
Binge Drinking				
No	---	1.00 (--)	1.00 (--)	1.00 (--)
Yes	---	0.963 (0.813, 1.139)	0.955 (0.806, 1.130)	0.981 (0.827, 1.164)
Body Mass Index				
Underweight or normal weight	---	1.00 (--)	1.00 (--)	1.00 (--)
Overweight	---	0.942 (0.797, 1.113)	0.933 (0.789, 1.103)	0.928 (0.784, 1.098)
Obese	---	**0.708 (0.592, 0.846)**	**0.705 (0.590, 0.842)**	**0.696 (0.582, 0.831)**
Socioeconomic Variables				
Highest Level of Education				
Less than high school	---	---	0.879 (0.759, 1.018)	0.918 (0.765, 1.102)
High school or high school equivalency	---	---	0.915 (0.790, 1.016)	0.947 (0.788, 1.138)
Some post-secondary or more	---	---	1.00 (--)	1.00 (--)
Household Income				
Less than $35,000	---	---	**0.811 (0.658, 0.999)**	**0.791 (0.641, 0.976)**
$35,000 to $60,899	---	---	**0.817 (0.671, 0.995)**	**0.806 (0.662, 0.982)**
$60,900 to $95,899	---	---	**0.777 (0.640, 0.942)**	**0.774 (0.638, 0.939)**
Greater than $95,899	---	---	1.00 (--)	1.00 (--)

Table 6 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Aboriginal-Specific Variables				
Speaks an Aboriginal Language				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.084 (0.858, 1.370)
Aboriginal Language Spoken at Home				
No	---	---	---	1.00 (--)
Yes	---	---	---	0.921 (0.729, 1.162)
Last Time Attending a Métis Cultural Event		---	---	
Less than 1 year ago	---	---	---	**1.401 (1.152, 1.704)**
From 1 to 5 years ago	---	---	---	1.174 (0.955, 1.442)
5 or more years ago	---	---	---	1.164 (0.947, 1.429)
Never	---	---	---	1.00 (--)
Member of a Métis Cultural, Social or Political Organization				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.068 (0.902, 1.264)
Level of Spirituality				
Very religious or spiritual	---	---	---	1.244 (0.968, 1.600)
Moderately religious or spiritual	---	---	---	1.092 (0.871, 1.368)
Not very religious or spiritual	---	---	---	1.126 (0.880, 1.442)
Not at all religious or spiritual	---	---	---	1.00 (--)

Table 6 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Select Model Fit Characteristics				
N	5581	5581	5581	5581
Sum of weights	215941.9	215941.9	215941.9	215941.9
df	11	18	23	32
(-2logL)	294752.34	288639.71	287982.76	286765.54
C-statistic	0.574	0.615	0.619	0.625

Notes: bolded values are significant at p = <0.05. Bootstrapped estimates are shown.

4.2.1: Leisure-Time Physical Activity Binary Logistic Regression Model Results

Demographic and Geographic Variables

As displayed in **Table 6**, gender was significantly associated with participation in leisure-time physical activity. Females were significantly less likely than males to participate in three or more hours of leisure-time activity per week (OR = 0.82, p = 0.0080 in the full model). Métis adults between the ages of 30 and 49 were significantly less likely than those aged 20 and 34 to meet or exceed three hours of leisure-time activity per week (OR = 0.69, p = <0.0001 in the full model). Similarly, Métis adults between the ages of 50 and 64 were significantly less likely to participate in three or more hours of leisure-time activity per week than Métis adults between the ages of 20 and 34 (OR = 0.60, p = <0.0001 in the full model).

Urban/rural residence was not a significant correlate of leisure-time physical activity participation. Preliminary analyses for this study used the DURBRUR APS variable to classify urban/rural residence. Using this APS variable, an area with a population greater than 1000 people was considered “urban”. No significant associations with leisure-time physical activity were found (results not shown) using this classification. Final analyses categorized geography

into four different levels using the CACMACOD variable on the APS. The CACMACOD variable allowed for urban/rural geography to be coded to residence in a CMA, CA, rural area with moderate to strong MIZ, or a rural area with no to weak MIZ. Again, no significant associations were found between this geographic classification and leisure-time physical activity level.

In terms of regional geography, there were no significant differences in leisure-time activity level between adult Métis who lived in Ontario, the Atlantic region, Quebec or the Prairies. However, Métis adults living in British Columbia were significantly more likely to participate in three or more hours of leisure-time activity per week compared to those living in Ontario (OR = 1.30, p = 0.0315 in the full model). On the other hand, Métis adults living in the Territories were significantly less likely to be active in their leisure-time than those living in Ontario (OR = 0.63, p = 0.0130).

Health Related Variables

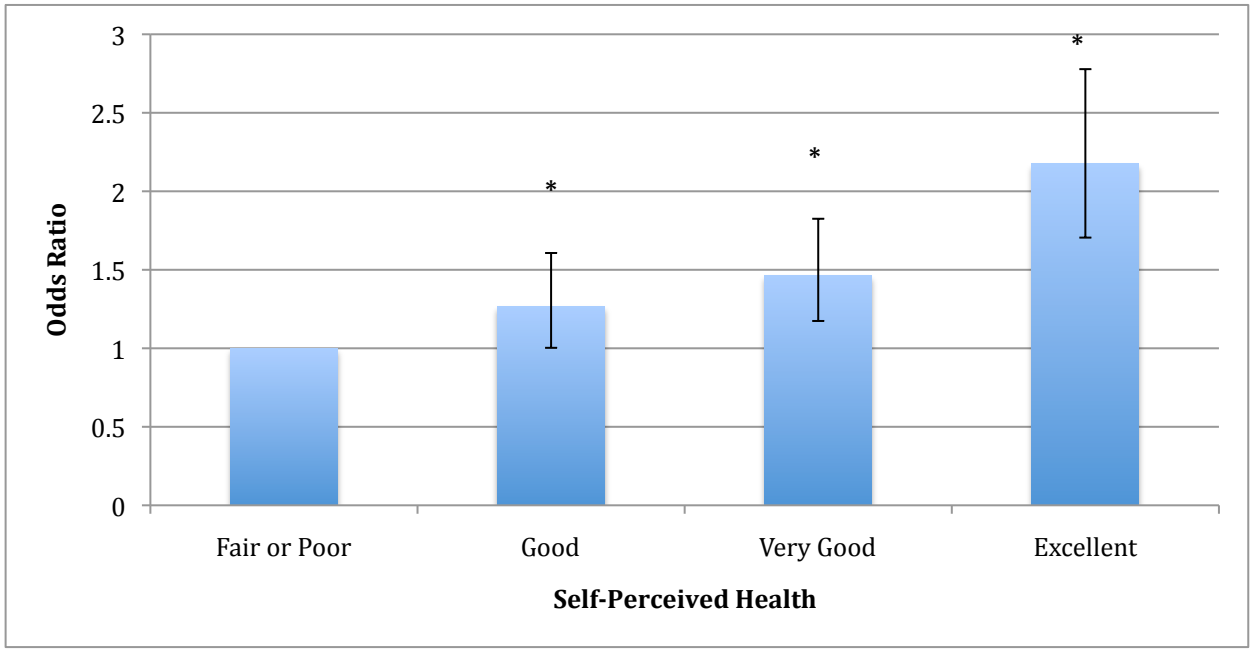
Figure 1 displays that self-perceived health was significantly associated with participating in three or more hours of leisure-time activity per week, as concluded by the odds ratios in **Table 6**. Métis adults with excellent, very good, and good self-perceived health were significantly more likely to participate in three or more hours of leisure-time activity per week than Métis adults with fair or poor self-perceived health (OR = 2.18, p = <0.0001; OR = 1.46, p = 0.0007; OR = 1.27, p = 0.0474 in the full model, respectively).

As indicated by **Table 6** and **Figure 2**, smokers were significantly less likely to participate in three or more hours of leisure-time activity per week than non-smokers (OR = 0.81, p = 0.0034 in the full model).

Binge drinking (consuming five or more drinks on a single occasion once per month or more) was not significantly associated with level of participation in leisure-time physical activity.

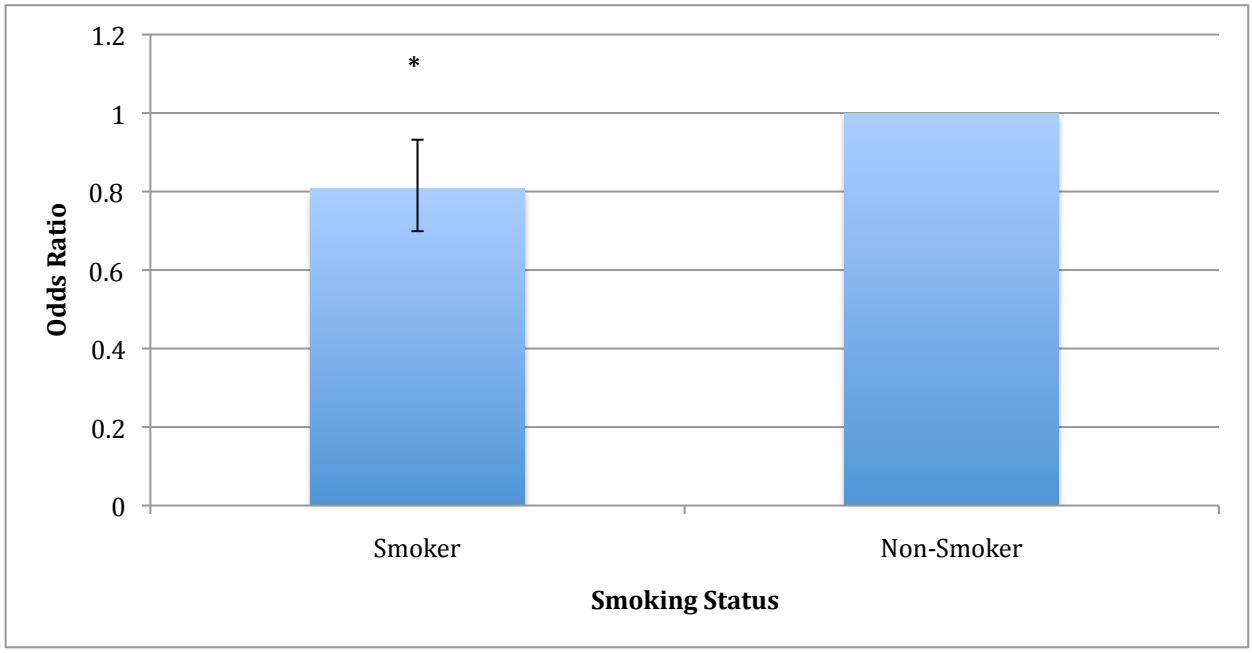
In terms of body mass index, there was not a significant difference in leisure-time physical activity participation between overweight and normal weight Métis adults. However, obesity was significantly associated with less leisure-time activity compared to normal weight Métis adults (OR = 0.70, p = <0.0001 in the full model). These results are displayed in **Figure 3.**

Figure 1: Odds of Participating in 3 or More Hours of Leisure-Time Physical Activity per Week by Self-Perceived Health among Adult Métis aged 20 to 64



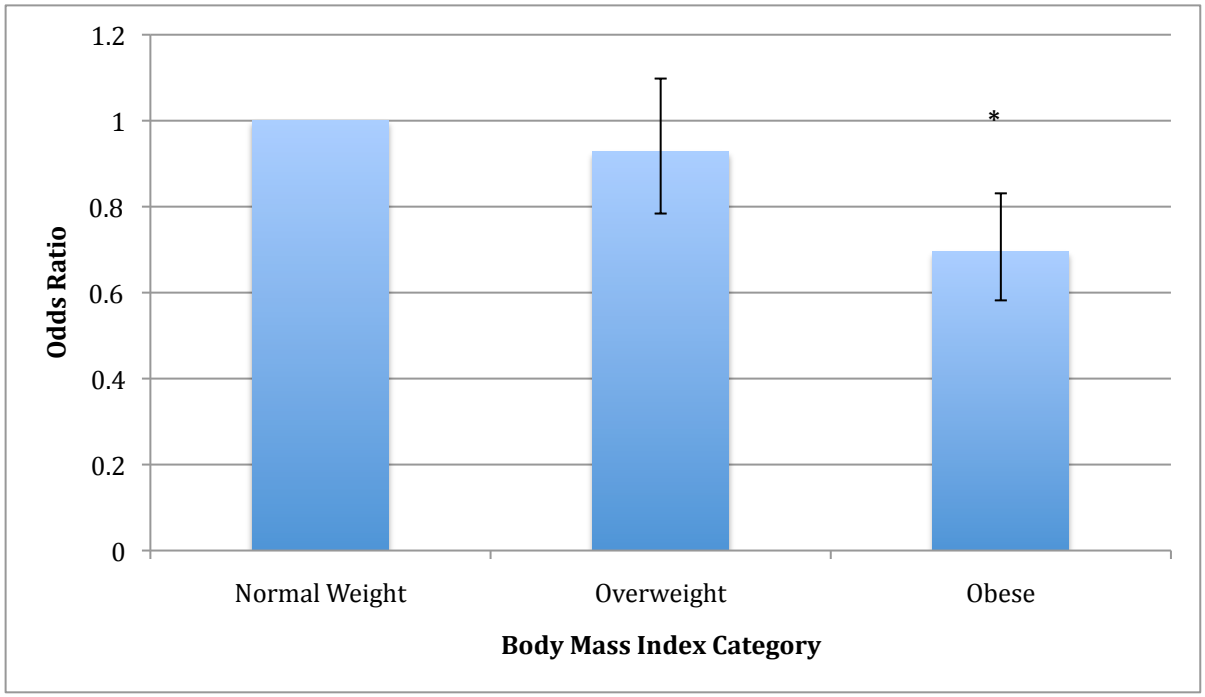
*Notes: Odds ratios were obtained from **Table 6**.*
** Denotes significance at p = < 0.05.*

Figure 2: Odds of Participating in 3 or More Hours of Leisure-Time Physical Activity per Week by Smoking Status among Adult Métis aged 20 to 64



*Notes: Odds ratios were obtained from **Table 6**.*
** Denotes significance at a p = < 0.05 level.*

Figure 3: Odds of Participating in 3 or More Hours of Leisure-Time Physical Activity per Week by Body Mass Index among Adult Métis aged 20 to 64



*Notes: Odds ratios were obtained from **Table 6**.*
** Denotes significance at a p = < 0.05 level.*

Socioeconomic Variables

Highest level of education was not significantly associated with leisure-time physical activity participation. Métis adults with less than high school or with a high school education were not significantly less or more likely to participate in three or more hours of leisure-time physical activity per week compared to Métis adults with some post-secondary education or more.

Annual household income, on the other hand, was significantly associated with leisure-time physical activity participation. Métis adults with an annual household income of greater than $95,900 (highest quartile) were significantly more likely to participate in three or more hours of leisure-time activity per week than Métis adults in the second ($60,900 to $95,899), third ($35,000 to $60,899) and lowest quartiles (less than $35,000) of annual household income (OR = 0.77, p = 0.0092; OR = 0.81, p = 0.0324; OR = 0.79, p = 0.0288 in the full model, respectively).

A model was estimated (results not shown) to investigate whether the effect of income was knocking out the effect of education in the logistic regression models. Removing income resulted in a significant negative association between achieving less than a high school education and participation in leisure-time physical activity in a model that was estimated without bootstrapping. Métis adults with less than a high school education were less likely to participate in three or more hours of leisure-time physical activity per week than those with some post secondary education or more (OR = 0.86, p = 0.0459). The association between high school education and leisure-time physical activity participation remained insignificant when income was removed from the model.

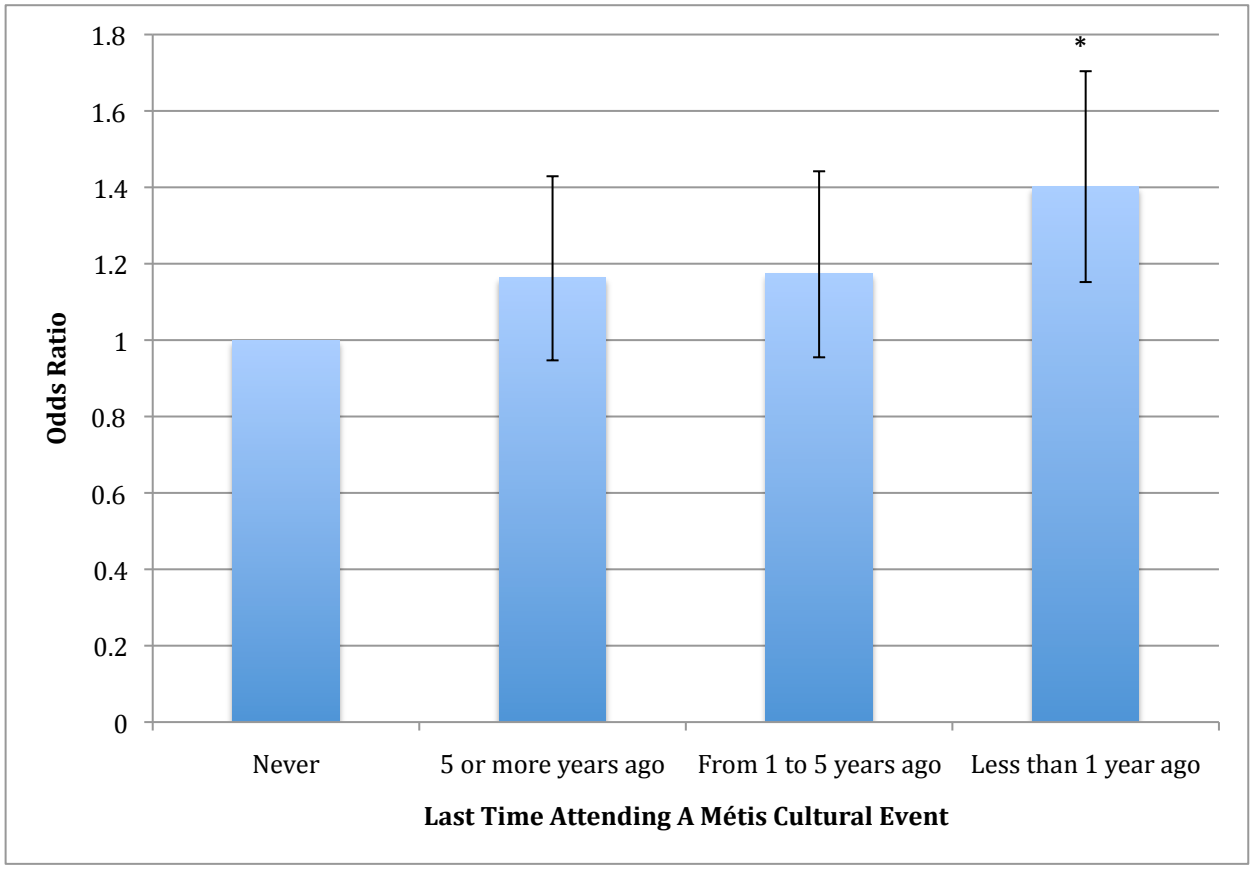
Aboriginal-specific variables

Speaking an Aboriginal language was not significantly associated with participating in three or more hours of leisure-time physical activity per week. Having an Aboriginal language spoken at home was also not associated with the level of leisure-time physical activity participation. A model was estimated (results not shown) to test the potential that the "Aboriginal language spoken at home" variable was knocking out the effect of the "speaks an Aboriginal language" variable. However, speaking an Aboriginal language remained insignificant.

Interestingly, as displayed in **Figure 4**, Métis adults who attended a Métis cultural event less than one year ago were significantly more likely to participate in three or more hours of leisure-time physical activity per week than those who had never attended an event (OR = 1.40, p = 0.0007 in the full model). Attending a Métis cultural event from one to five years ago or five or more years ago was not associated with leisure-time physical activity participation.

Being a member of a Métis cultural, social, or political organization was not significantly associated with leisure-time physical activity participation. Level of spirituality was also not associated with level of leisure-time physical activity.

Figure 4: Odds of Participating in 3 or More Hours of Leisure-Time Physical Activity per Week by Last Time Attending a Métis Cultural Event among Adult Métis aged 20 to 64



Notes: Odds ratios were obtained from ***Table 6****.*
** Denotes significance at a p = < 0.05 level.*

Summary

Among adult Métis, gender, age, some regional geography response categories, self-perceived health, smoking status, obesity, annual household income, and attending a Métis cultural event were significantly associated with level of leisure-time physical activity in the full model. Urban/rural geography, binge drinking, highest level of educational attainment, speaking an Aboriginal language, having an Aboriginal language spoken at home, being a member of a Métis cultural, social, or political organization, and level of spirituality were not associated with level of leisure-time physical activity.

Model Fit Characteristics

Calculating the likelihood ratio statistic by using the maximized log likelihood (-2logL) values indicated improved model fit in each successive model building step. The full model's (step 4) goodness of fit was significantly better compared to the other models (steps 1 through 3). C-statistic values increased small amounts as more variables were added to the models, ranging between 0.57 in step 1 to 0.63 in step 4. Increasing c-statistic values show that the more complex models somewhat improved the probability of correctly predicting the outcome category of leisure-time physical activity. According to Hosmer & Lemeshow (2000), a c-statistic value of 0.63 is only approaching a reasonable level when assessing whether a model predicts an outcome better than chance.

Table 7: Ordinal Logistic Regression Model Predicting Active Transportation among Métis Adults aged 20 to 64

	Step 1 **Odds Ratios (95% CI)**	**Step 2** **Odds Ratios (95% CI)**	**Step 3** **Odds Ratios (95% CI)**	**Step 4** **Odds Ratios (95% CI)**
Demographic and Geographic Variables				
Female	**1.329 (1.171, 1.508)**	**1.270 (1.114, 1.447)**	**1.251 (1.096, 1.428)**	**1.261 (1.103, 1.441)**
Male	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age group 20-34	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age group 35-49	0.885 (0.767, 1.023)	0.907 (0.785, 1.048)	0.923 (0.799, 1.067)	0.895 (0.773, 1.037)
Age group 50-64	**0.758 (0.650, 0.884)**	**0.798 (0.681, 0.935)**	**0.814 (0.693, 0.956)**	**0.790 (0.671, 0.930)**
Urban/Rural Geography				
CMA	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
CA	1.052 (0.876, 1.262)	1.062 (0.884, 1.276)	1.068 (0.888, 1.284)	1.058 (0.880, 1.273)
Rural with moderate to strong MIZ	0.863 (0.725, 1.027)	0.870 (0.731, 1.037)	0.874 (0.734, 1.041)	0.859 (0.721, 1.022)
Rural with no to weak MIZ	1.108 (0.939, 1.307)	1.125 (0.953, 1.329)	1.124 (0.951, 1.329)	1.080 (0.908, 1.285)
Regional Geography				
Ontario	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Atlantic	0.889 (0.692, 1.143)	0.884 (0.684, 1.141)	0.864 (0.669, 1.115)	0.901 (0.695, 1.168)
Quebec	0.804 (0.625, 1.033)	**0.773 (0.602, 0.994)**	**0.757 (0.588, 0.976)**	0.780 (0.605, 1.005)
Prairies	1.009 (0.847, 1.203)	0.999 (0.838, 1.190)	0.996 (0.834, 1.189)	0.924 (0.774, 1.103)
British Columbia	0.955 (0.767, 1.190)	0.950 (0.764, 1.182)	0.948 (0.762, 1.180)	0.934 (0.750, 1.164)
Territories	**0.661 (0.486, 0.899)**	**0.662 (0.484, 0.905)**	**0.682 (0.500, 0.930)**	**0.627 (0.459, 0.857)**
Health Related Variables				
Self-Perceived Health				
Excellent	---	1.118 (0.901, 1.388)	1.192 (0.956, 1.486)	1.221 (0.981, 1.521)

Table 7 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Self-Perceived Health Continued				
Very good	---	**1.276 (1.048, 1.554)**	**1.350 (1.100, 1.656)**	**1.367 (1.115, 1.677)**
Good	---	**1.285 (1.059, 1.560)**	**1.345 (1.105, 1.639)**	**1.368 (1.123, 1.665)**
Fair or poor	---	1.00 (--)	1.00 (--)	1.00 (--)
Smoking Status				
Non-smoker	---	1.00 (--)	1.00 (--)	1.00 (--)
Smoker	---	1.130 (0.989, 1.291)	1.098 (0.959, 1.257)	1.084 (0.946, 1.242)
Binge Drinking				
No	---	1.00 (--)	1.00 (--)	1.00 (--)
Yes	---	0.921 (0.790, 1.074)	0.928 (0.796, 1.082)	0.946 (0.810, 1.105)
Body Mass Index				
Underweight or normal weight	---	1.00 (--)	1.00 (--)	1.00 (--)
Overweight	---	**0.864 (0.748, 0.998)**	0.871 (0.754, 1.007)	**0.858 (0.743, 0.991)**
Obese	---	**0.762 (0.647, 0.897)**	**0.761 (0.646, 0.898)**	**0.748 (0.634, 0.883)**
Socioeconomic Variables				
Highest Level of Education				
Less than high school	---	---	0.951 (0.799, 1.133)	0.981 (0.822, 1.171)
High school or high school equivalency	---	---	1.001 (0.846, 1.185)	1.042 (0.879, 1.236)
Some post-secondary or more	---	---	1.00 (--)	1.00 (--)
Household Income				
Less than $35,000	---	---	**1.364 (1.128, 1.648)**	**1.322 (1.093, 1.598)**
$35,000 to $60,899	---	---	1.084 (0.899, 1.307)	1.063 (0.878, 1.286)
$60,900 to $95,899	---	---	1.076 (0.910, 1.274)	1.075 (0.909, 1.271)
Greater than $95,899	---	---	1.00 (--)	1.00 (--)

Table 7 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Aboriginal-Specific Variables				
Speaks an Aboriginal Language				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.112 (0.861, 1.434)
Aboriginal Language Spoken at Home				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.246 (0.987, 1.573)
Last Time Attending a Métis Cultural Event		---	---	
Less than 1 year ago	---	---	---	**1.295 (1.090, 1.538)**
From 1 to 5 years ago	---	---	---	**1.209 (1.008, 1.450)**
5 or more years ago	---	---	---	**1.282 (1.055, 1.559)**
Never	---	---	---	1.00 (--)
Member of a Métis Cultural, Social or Political Organization				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.084 (0.933, 1.259)
Level of Spirituality				
Very religious or spiritual	---	---	---	1.159 (0.924, 1.455)
Moderately religious or spiritual	---	---	---	1.057 (0.865, 1.291)
Not very religious or spiritual	---	---	---	1.044 (0.837, 1.302)
Not at all religious or spiritual	---	---	---	1.00 (--)

Table 7 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Select Model Fit Characteristics				
N	5581	5581	5581	5581
Sum of weights	215941.9	215941.9	215941.9	215941.9
df	11	18	23	32
(-2logL)	468035.27	466488.75	465734.82	464073.29
C-statistic	0.552	0.563	0.569	0.576

Notes: bolded values are significant at p = <0.05. Bootstrapped estimates are shown.

4.2.2: Active Transportation Ordinal Logistic Regression Model Results

Demographic and Geographic Variables

As displayed in **Table 7**, gender was significantly associated with active transportation. Adult Métis females were more likely to participate in greater levels of walking to go to work, school, or to do errands than men (OR = 1.26, p = 0.0007 in the full model). Métis adults aged 50 to 64 were significantly less likely to participate in higher levels of active transportation than Métis adults aged 20 to 34 (OR = 0.79, p = 0.0046 in the full model). There was not a significant difference in active transportation levels between age groups 35 to 49 and 20 to 34 in the full model.

Urban/rural residence was not a significant correlate of the level of active transportation. The associations between urban/rural geography and active transportation were examined in the same way as the associations between urban/rural geography and leisure-time physical activity, as outlined in section **4.2.1**.

There was only one significant association in the full model between regional geography and level of active transportation. Métis adults living in the Territories were significantly less likely to report high levels of active transportation compared to those who living in Ontario (OR

= 0.63, p = 0.0034 in the full model). In models 2 and 3, Métis adults living in Quebec were significantly less likely to participate in high levels of active transportation compared to Métis adults living in Ontario (OR = 0.77, p = 0.0049; OR = 0.76, p = 0.0315 in models 2 and 3, respectively). There were no significant differences in active transportation levels between adult Métis living in Ontario, the Atlantic region, the Prairies, or British Columbia.

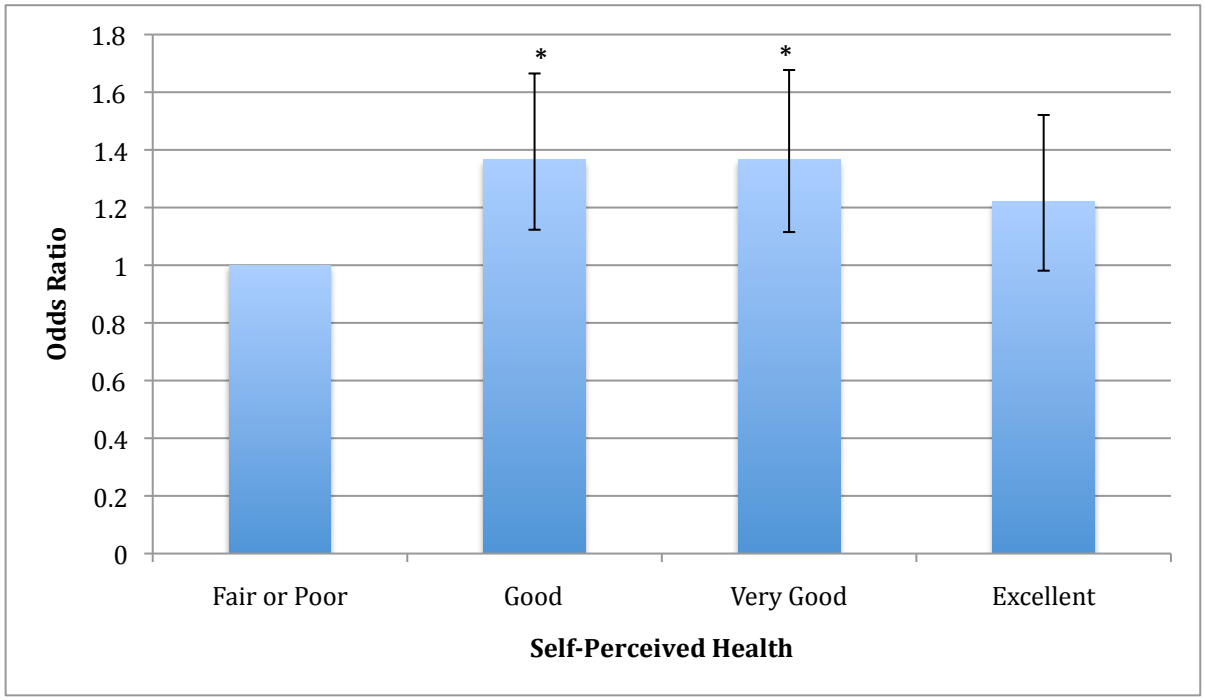
Health Related Variables

Self-perceived health was significantly associated with level of active transportation, as displayed in **Figure 5**. Métis adults who reported either very good or good self-perceived health were significantly more likely to participate in greater levels of active transportation compared to Métis adults who reported fair or poor self-perceived health (OR = 1.37, p = 0.0027; OR = 1.37, p = 0.0018 in the full model, respectively). However, having excellent self-perceived health was not associated with level of active transportation.

As seen in **Figure 6**, being overweight or obese was correlated with participating in lower levels of active transportation (OR = 0.86, p = 0.0378; OR = 0.75, p = 0.0006 in the full model, respectively).

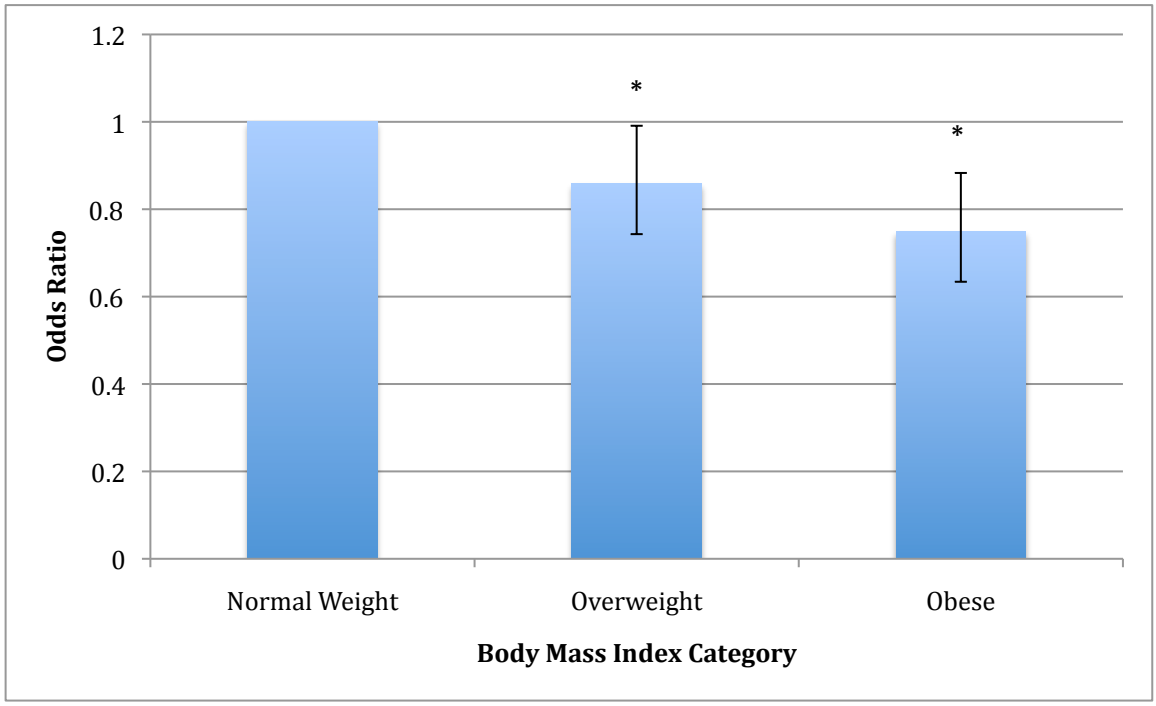
Smoking status and binge drinking were not significantly associated with level of active transportation in the full model.

Figure 5: Odds of Participating in a High Level of Active Transportation by Self-perceived Health among Adult Métis aged 20 to 64



*Notes: Odds ratios were obtained from **Table** 7.*
** Denotes significance at a p = < 0.05 level.*

Figure 6: Odds of Participating in a High Level of Active Transportation by Body Mass Index among Adult Métis aged 20 to 64



*Notes: Odds ratios were obtained from **Table** 7.*
** Denotes significance at a p = < 0.05 level.*

Socioeconomic variables

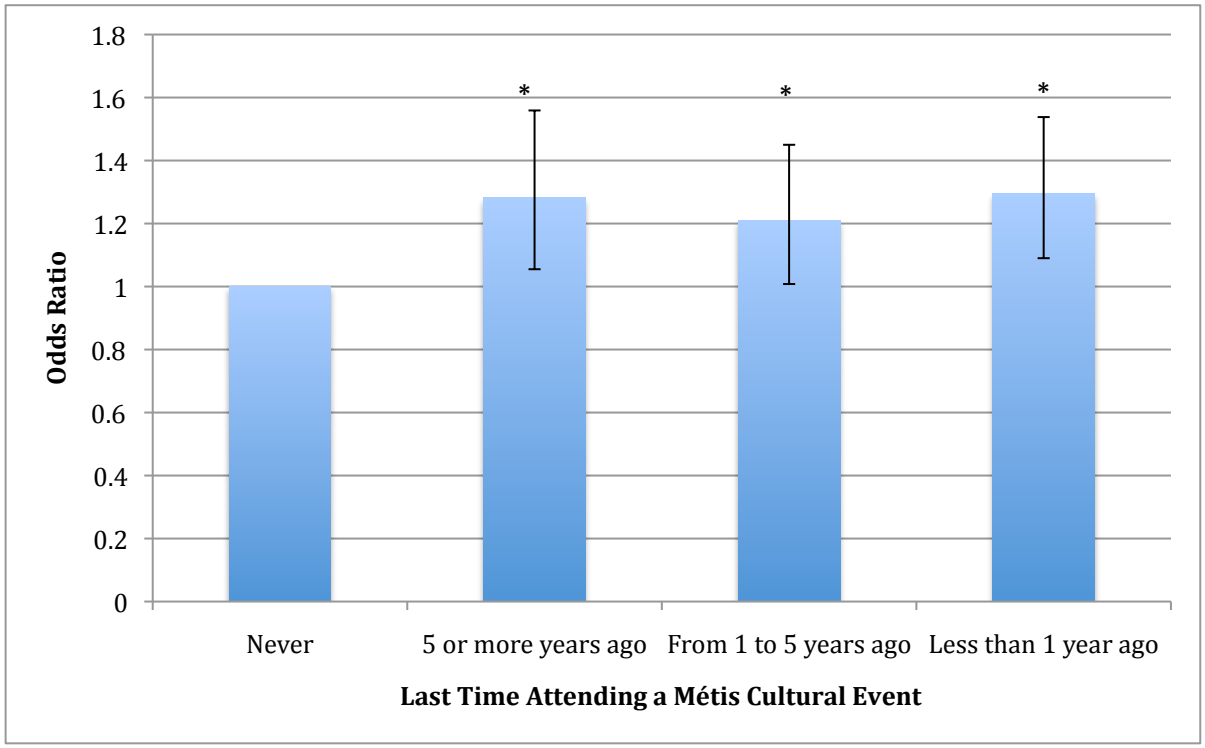
Highest level of educational attainment was not a significant correlate of level of active transportation. However, a household income of less than $35,000 (lowest quartile) was associated with a greater level of active transportation (OR = 1.32, p = 0.0039 in the full model). The three higher quartiles of annual household income were not significantly associated with level of active transportation. Again, as outlined in section **4.2.1**, a model was run (results not shown) to investigate whether the effect of income was knocking out the association between educational attainment and active transportation, but the association remained insignificant.

Aboriginal-Specific Variables

Speaking an Aboriginal language, having an Aboriginal language spoken at home and level of spirituality were not significantly associated with level of active transportation. Being a member of a Métis cultural, social, or political organization was also not associated with level of active transportation.

However, **Figure 7** displays that adult Métis who attended Métis cultural events reported more active transportation compared to those who had never attended. All frequency categories of "last time attending a Métis cultural event" demonstrated a significant positive association with reporting greater levels of active transportation. Attending a Métis cultural event "less than 1 year ago", "from 1 to 5 years ago", and "more than 5 years ago" was significantly positively associated with reporting higher levels of active transportation compared to "never" having attended a Métis cultural event (OR = 1.30, p = 0.0032; OR = 1.21, p = 0.0411; OR = 1.28, p = 0.0127 in the full model, respectively).

Figure 7: Odds of Participating in a High Level of Active Transportation by Last Time Attending a Métis Cultural Event among Métis aged 20 to 64



Notes: Odds ratios were obtained from ***Table*** *7.*
** Denotes significance at a p = < 0.05 level.*

Summary

Among adult Métis, gender, age, regional geography, self-perceived health, body mass index, household income, and having attended a Métis cultural event were significantly associated with level of active transportation in the full model. Urban/rural geography, smoking status, binge drinking, highest level of educational attainment, speaking an Aboriginal language, having an Aboriginal language spoken at home, being a member of a Métis cultural, social or political organization, and level of spirituality were never significantly associated with level of active transportation.

Model Fit Characteristics

Likelihood ratio statistics calculated by using the obtained -2logL values demonstrated that models with more correlates improved model fit. The full model had a significantly better goodness-of-fit compared to the other models with fewer predictors. C-statistic values increased as more predictors were added to the models, ranging between 0.55 in step 1 to 0.58 in step 4, demonstrating again that the more complex models somewhat improved the probability of correctly predicting the outcome category. However, a c-statistic value of 0.58 indicates that the full model was only moderately better than chance at predicting the correct active transportation response category.

Table 8: Ordinal Logistic Regression Model Predicting Occupational Physical Activity among Métis Adults aged 20 to 64

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Demographic and Geographic Variables				
Female	**0.641 (0.565, 0.727)**	**0.655 (0.576, 0.745)**	**0.657 (0.577, 0.748)**	**0.641 (0.562, 0.732)**
Male	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age group 20-34	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Age group 35-49	**0.706 (0.609, 0.819)**	**0.760 (0.651, 0.886)**	**0.764 (0.655, 0.892)**	**0.747 (0.640, 0.873)**
Age group 50-64	**0.597 (0.508, 0.702)**	**0.723 (0.609, 0.859)**	**0.719 (0.605, 0.855)**	**0.694 (0.583, 0.827)**
Urban/Rural Geography				
CMA	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
CA	1.124 (0.943, 1.340)	1.133 (0.953, 1.347)	1.115 (0.937, 1.326)	1.120 (0.940, 1.335)
Rural with moderate to strong MIZ	**1.314 (1.108, 1.559)**	**1.326 (1.117, 1.575)**	**1.268 (1.063, 1.511)**	**1.271 (1.065, 1.518)**
Rural with no to weak MIZ	**1.381 (1.169, 1.632)**	**1.386 (1.170, 1.642)**	**1.313 (1.106, 1.558**	**1.305 (1.096, 1.554)**
Regional Geography				
Ontario	1.00 (--)	1.00 (--)	1.00 (--)	1.00 (--)
Atlantic	1.199 (0.927, 1.550)	1.198 (0.921, 1.559)	1.174 (0.899, 1.533)	1.170 (0.894, 1.529)
Quebec	1.191 (0.930, 1.526)	1.159 (0.907, 1.482)	1.130 (0.883, 1.445)	1.141 (0.892, 1.460)
Prairies	1.068 (0.892, 1.279)	1.038 (0.863, 1.247)	1.018 (0.848, 1.222)	1.018 (0.845, 1.226)
British Columbia	**1.271 (1.021, 1.581)**	**1.293 (1.039, 1.610)**	**1.280 (1.029, 1.593)**	**1.291 (1.037, 1.606)**
Territories	0.761 (0.527, 1.100)	0.713 (0.495, 1.028)	0.764 (0.531, 1.100)	0.772 (0.533, 1.116)
Health Related Variables				
Self-Perceived Health				
Excellent	---	**2.102 (1.696, 2.604)**	**2.328 (1.871, 2.897)**	**2.349 (1.883, 2.931)**

Table 8 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Self-Perceived Health Continued				
Very good	---	**2.083 (1.702, 2.549)**	**2.260 (1.841, 2.775)**	**2.273 (1.849, 2.792)**
Good	---	**1.835 (1.486, 2.265)**	**1.918 (1.551, 2.371)**	**1.933 (1.564, 2.389)**
Fair or poor	---	1.00 (--)	1.00 (--)	1.00 (--)
Smoking Status				
Non-smoker	---	1.00 (--)	1.00 (--)	1.00 (--)
Smoker	---	**1.319 (1.155, 1.507)**	**1.234 (1.078, 1.413)**	**1.238 (1.080, 1.418)**
Binge Drinking				
No	---	1.00 (--)	1.00 (--)	1.00 (--)
Yes	---	1.074 (0.911, 1.267)	1.084 (0.919, 1.279)	1.107 (0.938, 1.307)
Body Mass Index				
Underweight or normal weight	---	1.00 (--)	1.00 (--)	1.00 (--)
Overweight	---	1.116 (0.956, 1.302)	1.130 (0.968, 1.318)	1.135 (0.972, 1.325)
Obese	---	0.868 (0.730, 1.032)	0.865 (0.727, 1.029)	0.870 (0.731, 1.025)
Socioeconomic Variables				
Highest Level of Education				
Less than high school	---	---	**1.360 (1.155, 1.602)**	**1.335 (1.149, 1.597)**
High school or high school equivalency	---	---	**1.404 (1.194, 1.651)**	**1.406 (1.194, 1.656)**
Some post-secondary or more	---	---	1.00 (--)	1.00 (--)
Household Income				
Less than $35,000	---	---	**1.295 (1.061, 1.579)**	**1.281 (1.049, 1.565)**
$35,000 to $60,899	---	---	**1.379 (1.151, 1.652)**	**1.380 (1.152, 1.653)**
$60,900 to $95,899	---	---	**1.399 (1.175, 1.665)**	**1.402 (1.178, 1.669)**
Greater than $95,899	---	---	1.00 (--)	1.00 (--)

Table 8 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Aboriginal-Specific Variables				
Speaks an Aboriginal Language				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.052 (0.832, 1.330)
Aboriginal Language Spoken at Home				
No	---	---	---	1.00 (--)
Yes	---	---	---	1.045 (0.827, 1.322)
Last Time Attending a Métis Cultural Event		---	---	
Less than 1 year ago	---	---	---	1.016 (0.842, 1.225)
From 1 to 5 years ago	---	---	---	0.978 (0.811, 1.178)
5 or more years ago	---	---	---	0.979 (0.797, 1.202)
Never	---	---	---	1.00 (--)
Member of a Métis Cultural, Social or Political Organization				
No	---	---	---	1.00 (--)
Yes	---	---	---	0.884 (0.753, 1.037)
Level of Spirituality				
Very religious or spiritual	---	---	---	**1.346 (1.054, 1.719)**
Moderately religious or spiritual	---	---	---	**1.321 (1.063, 1.642)**
Not very religious or spiritual	---	---	---	1.179 (0.930, 1.495)
Not at all religious or spiritual	---	---	---	1.00 (--)

Table 8 Continued.

	Step 1 Odds Ratios (95% CI)	Step 2 Odds Ratios (95% CI)	Step 3 Odds Ratios (95% CI)	Step 4 Odds Ratios (95% CI)
Select Model Fit Characteristics				
N	5581	5581	5581	5581
Sum of weights	215941.9	215941.9	215941.9	215941.9
df	11	18	23	32
(-2logL)	455519.83	450006.84	447312.24	446626.62
C-statistic	0.582	0.611	0.623	0.624

Notes: bolded values are significant at p = <0.05. Bootstrapped estimates shown.

4.2.3: Occupational Physical Activity Ordinal Logistic Regression Model Results

Demographic and Geographic Variables

As summarized in **Table 8**, gender was significantly associated with level of occupational physical activity. Métis women were significantly less likely to report high levels of occupational physical activity than Métis men (OR = 0.64, p = <0.0001 in the full model). Age was also significantly associated with level of occupational physical activity. Métis adults aged 35 to 49 and 50 to 64 were significantly less likely to report high levels of occupational activity compared to Métis adults aged 20 to 34 (OR = 0.75, p = 0.873; OR = 0.69, p = 0.827 in the full model, respectively).

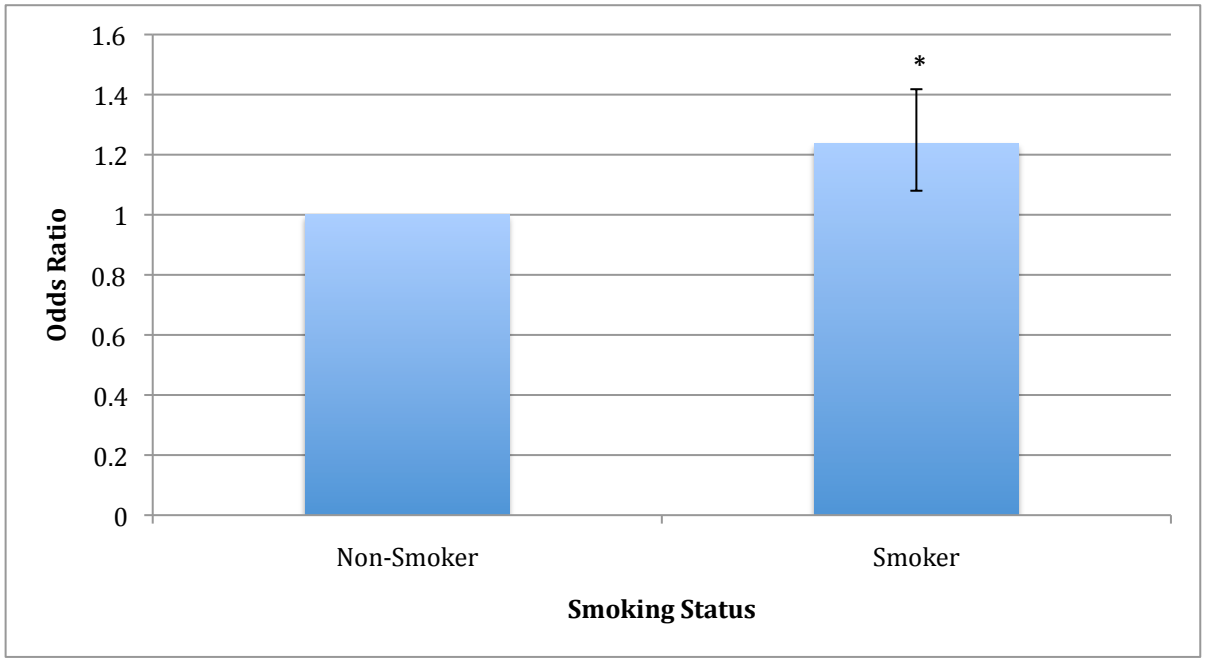
Rural residence was correlated with higher levels of occupational physical activity compared to urban residence. Métis adults living in rural areas with moderate to high MIZ and rural areas with no to weak MIZ were significantly more likely to report higher levels of occupational physical activity compared to those who lived in CMAs (OR = 1.27, p = 0.0080; OR = 1.31, p = 0.0028 in the full model, respectively).

British Columbia was the only regional area that demonstrated a significant association with level of occupational activity. Métis adults living in British Columbia were significantly more likely to report higher levels of occupational physical activity than Métis adults living in Ontario (OR = 1.29, p = 0.0223 in the full model). Levels of occupational physical activity were not significantly different among Métis living in Ontario, the Atlantic region, Quebec, the Prairies, or the Territories.

Health Related Variables

Métis adults with excellent, very good, and good self-perceived health were significantly more likely to participate in high levels of occupational physical activity than Métis adults with fair or poor self-perceived health (OR = 2.35, p = <0.0001; OR = 2.27, p = <0.0001; OR = 1.93, p = <0.0001 in the full model, respectively). Furthermore, smoking status was significantly associated with level of occupational physical activity. As indicated by **Figure 8**, Métis adults who smoked were significantly more likely to report high levels of occupational physical activity compared to non-smokers (OR = 1.24, p = 0.0021 in the full model). Binge drinking, on the other hand, was not significantly associated with level of occupational physical activity. Similarly, BMI was not significantly associated with level of occupational physical activity. Being overweight or obese was not associated with any difference in occupational physical activity compared to being underweight/normal weight.

Figure 8: Odds of Participating in a High Level of Occupational Physical Activity by Smoking Status among Adult Métis aged 20 to 64



*Notes: Odds ratios were obtained from **Table 8**.*
** Denotes significance at a p = < 0.05 level.*

Socioeconomic Variables

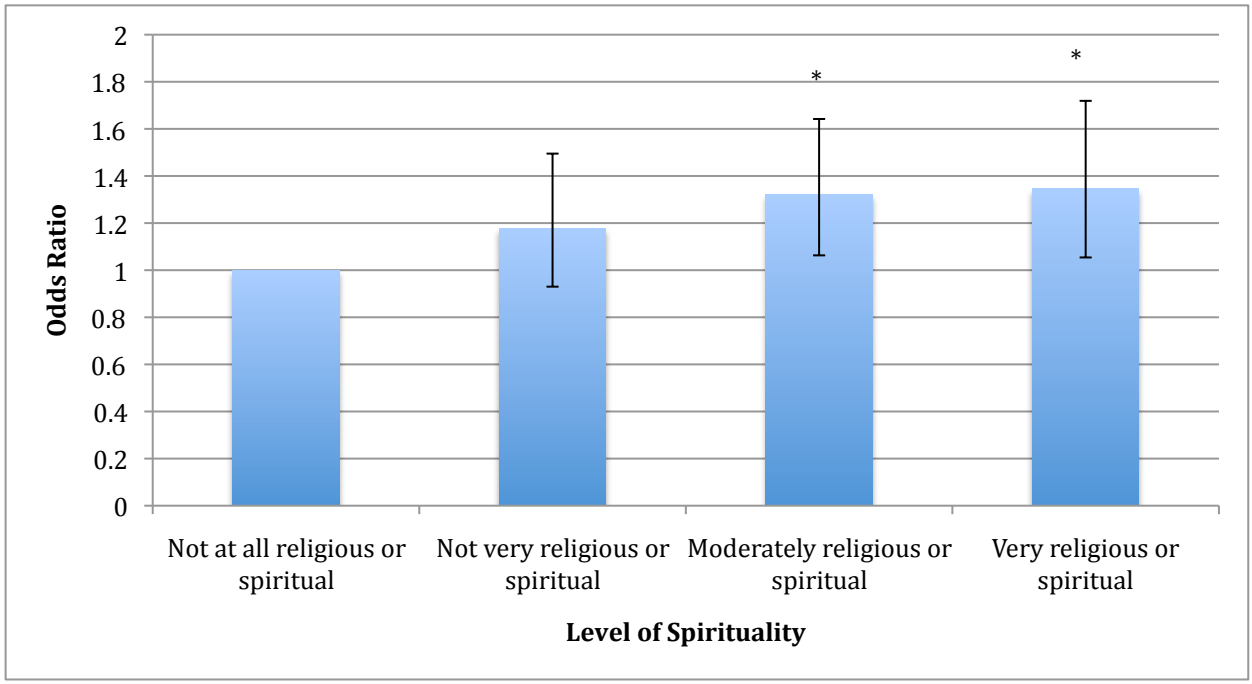
A lower level of educational attainment was correlated with a higher level of occupational physical activity. Métis adults with less than a high school education or with a high school education were significantly more likely to report high levels of occupational physical activity compared to Métis adults with some post-secondary education or more (OR = 1.36, p = 0.0003; OR = 1.41, p = <0.0001 in the full model, respectively). In terms of income, adult Métis with an annual household income in the first, second or third quartile were significantly more likely to report higher levels of occupational activity than Métis adults in the highest quartile of household income (OR = 1.28, p = 0.0152; OR = 1.38, p = 0.0005; OR = 1.40, p = 0.0001 in the full model, respectively).

Aboriginal-Specific Variables

Speaking an Aboriginal language, having an Aboriginal language spoken at home, having attended a Métis cultural event and being a member of a Métis cultural, social or political organization were not associated with the level of occupational physical activity reported.

Interestingly, adult Métis who reported being more religious or spiritual were more likely to report higher levels of occupational physical activity, as represented by **Figure 9**. Being very religious or spiritual or moderately religious or spiritual was associated with higher levels of occupational physical activity compared to not being religious or spiritual (OR = 1.35, p = 0.0171; OR = 1.32, p = 0.0120).

Figure 9: Odds of Participating in a High Level of Occupational Physical Activity by Level of Spirituality among Adult Métis aged 20 to 64



*Notes: Odds ratios were obtained from **Table 8**.*
** Denotes significance at a p = < 0.05 level.*

Summary

Among adult Métis, gender, age, urban/rural geography, regional geography, self-perceived health, smoking status, highest level of educational attainment, annual household income, and level of spirituality were all significantly associated with level of occupational physical activity. Binge drinking, BMI, speaking an Aboriginal language, having an Aboriginal language spoken at home, last time attending a Métis cultural event, and being a member of a Métis cultural, social or political organization were not significantly associated with the level of occupational physical activity.

Model Fit Characteristics

Once again, the likelihood ratio statistics calculated by using -2logL values indicated that the models with more predictors improved model fit. The full model had a significantly better goodness-of-fit compared to the other models with fewer predictors. C-statistic values increased as more predictors were added to the models, ranging between 0.58 in Step 1 to 0.62 in Step 4, demonstrating again that the more complex models somewhat improved the probability of correctly predicting the outcome category.

Table 9: Summary of Logistic Regression Results Indicating Significance of Main Correlates Only for Leisure-Time, Active Transportation, and Occupational Physical Activity

	Leisure-time PA	Active Transport	Occupational PA
Health Related Variables			
Self-Perceived Health			
Excellent	**S (+)**	NS	**S (+)**
Very good	**S (+)**	**S (+)**	**S (+)**
Good	**S (+)**	**S (+)**	**S (+)**
Fair or Poor	*	*	*
Smoking Status			
Non-smoker	*	*	*
Smoker	**S (-)**	NS	**S (+)**
Binge Drinking			
No	*	*	*
Yes	NS	NS	NS
Body Mass Index			
Underweight or normal weight	*	*	*
Overweight	NS	**S (-)**	NS
Obese	**S (-)**	**S (-)**	NS
Aboriginal-Specific Variables			
Speaks an Aboriginal Language			
No	*	*	*
Yes	NS	NS	NS
Aboriginal Language Spoken at Home			
No	*	*	*
Yes	NS	NS	NS
Last Time Attending a Métis Cultural Event			
Less than 1 year ago	**S (+)**	**S (+)**	NS
From 1 to 5 years ago	NS	**S (+)**	NS
5 or more years ago	NS	**S (+)**	NS
Never	*	*	*
Member of a Métis Cultural, Social or Political Organization			
No	*	*	*
Yes	NS	NS	NS
Level of Spirituality			
Very religious or spiritual	NS	NS	**S (+)**

Table 9 Continued.

	Leisure-time PA	Active Transport	Occupational PA
Level of Spirituality Continued			
Moderately religious or spiritual	NS	NS	**S (+)**
Not very religious or spiritual	NS	NS	NS
Not at all religious or spiritual	*	*	*

Notes: Significant associations are denoted by "S" and are bolded. "NS" denotes non-significant associations. A (+) *represents a positive association and a* (-) *represents a negative association. An asterisk* (*) *represents a reference category.*

4.3: Physical Activity Interaction Models

Full models with all possible gender and age interaction terms were estimated for leisure-time physical activity, active transportation, and occupational physical activity. All interaction terms that were found to be significant are represented in tabular and graphical format below. Demographic, geographic, socioeconomic, health-related, and Aboriginal-specific variables were controlled for.

4.3.1: Leisure-Time Physical Activity Interaction Models

Figure 10 demonstrates the age by gender interaction terms as predicted probabilities calculated from the parameter estimates in **Table 10**. Evident from the graph is the fact that younger adult age groups were more likely to have reported three or more hours of leisure-time physical activity per week. In addition, men aged 20 to 34 and 35 to 49 were more likely than women to have participated in this level of leisure-time physical activity. The graph also indicates that the age group 50 to 64 by women interaction term is statistically significant, demonstrating that the difference in leisure-time physical activity levels between men and women in this age category was not as large as compared to the other adult age groups. In other

words, men and women aged 50 to 64 were equally as likely to have participated in three or more hours of leisure-time physical activity per week.

Table 10: Logistic Regression Model and Predicted Probabilities for Age by Gender and Age by Geography Interaction Terms Predicting 3 or More Hours of Leisure-Time Physical Activity Per Week among Adult Métis aged 20 to 64

	B	SE	Odds Ratio
Intercept	0.1487	0.2048	1.160
Demographic Variables			
Male	---	---	1.00
Female	**-0.2895**	0.0866	**0.749**
20-34	**---**	---	1.00
35-49	**-0.3741**	0.0866	**0.688**
50-64	**-0.7534**	0.1352	**0.471**
Geographic Variables			
CMA	---	---	1.00
CA	-0.0941	0.0972	0.910
Rural with moderate to high MIZ	-0.0112	0.1007	0.989
Rural with no to weak MIZ	-0.00418	0.1104	0.996
Significant Interaction Terms			
Female * 50-64	**0.3258**	0.1553	**1.385**
Age3 * Rural with no to weak MIZ	**0.4191**	0.1769	**1.521**

Calculated Predicted Probabilities for Age by Gender Interactions

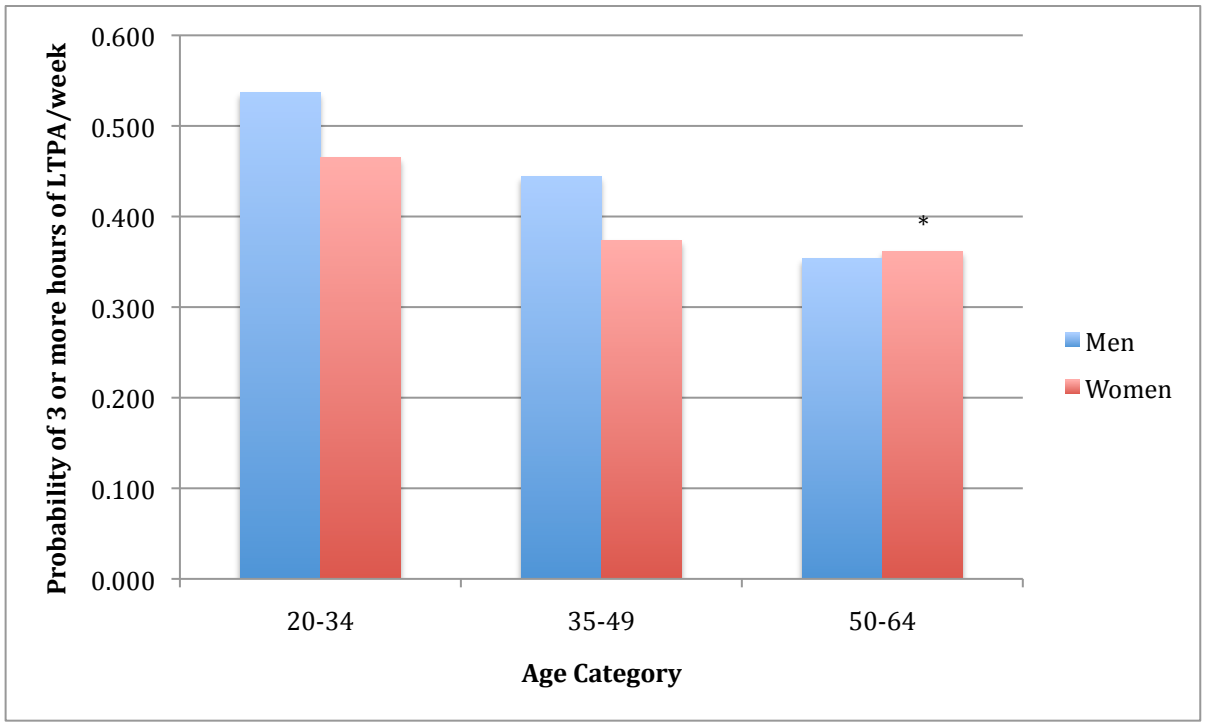
	Male	Female
Aged 20-34	0.537	0.465
Aged 35-49	0.444	0.374
Aged 50-64	0.353	**0.362**

Calculated Predicted Probabilities for Age by Urban/Rural Geography Interactions

	CMA	CA	Rural with moderate to high MIZ	Rural with no to weak MIZ
Aged 20-34	0.537	0.514	0.534	0.536
Aged 35-49	0.444	0.421	0.441	0.443
Aged 50-64	0.353	0.332	0.351	**0.453**

Notes: The model displays estimates when controlling for socioeconomic, health-related, and Aboriginal-specific variables. Bootstrapped estimates are shown. All non-significant interactions are not shown and were made equal to zero. Bolded values indicate significance at p = < 0.05.

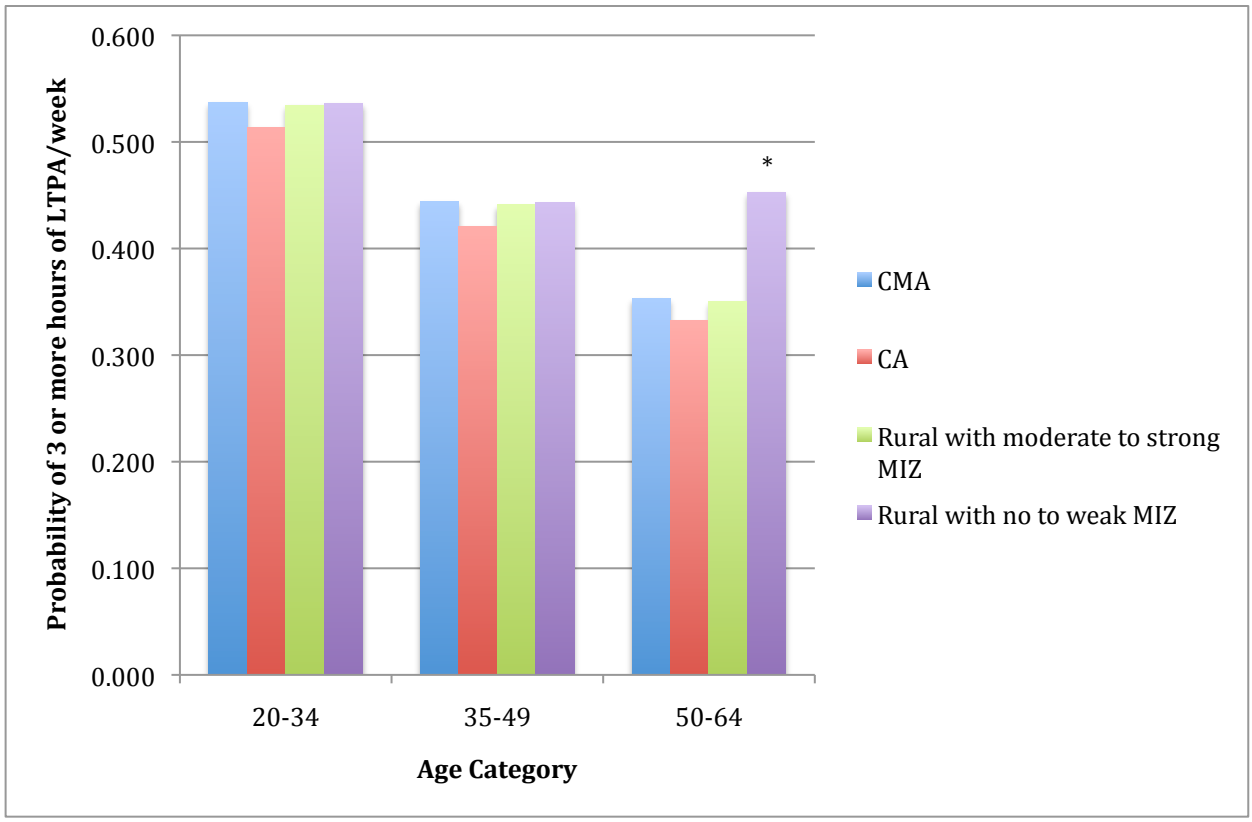
Figure 10: Predicted Probability of Participating in 3 or More Hours of Leisure-Time Physical Activity per Week including Age and Gender Interaction Terms among Adult Métis aged 20 to 64



Notes: This graph shows the predicted probability of participating in three or more hours of leisure-time physical activity per week, controlling for geographic, socioeconomic, health-related, and Aboriginal-specific variables. Predicted probabilities were calculated from the parameter estimates in ***Table 10*** *and all non-significant interactions were made equal to zero. An asterisk (*) represents significance at p = < 0.05.*

Age by urban/rural geography interactions terms are represented as predicted probabilities in **Figure 11**. The age group 50 to 64 by rural geography with no to weak MIZ interaction term is statistically significant, demonstrating that adult Métis in this age range were significantly more likely to have reported three or more hours of leisure-time physical activity per week if they lived in a rural area with no to weak MIZ. Other than this association, no other significant differences in activity level were observed by urban/rural geographic classification. Again, this graph shows that adult Métis in younger adult age categories are more likely to have reported three or more hours of leisure-time physical activity per week.

Figure 11: Predicted Probability of Participating in 3 or More Hours of Leisure-Time Physical Activity per Week including Age and Geography Interaction Terms among Adult Métis aged 20 to 64



Notes: This graph shows the predicted probability of participating in three or more hours of leisure-time physical activity per week, controlling for gender, socioeconomic, health-related, and Aboriginal-specific variables. Predicted probabilities were calculated from the parameter estimates in ***Table 10*** *and all non-significant interactions were made equal to zero. An asterisk (*) represents significance at p = < 0.05. CMA = Census Metropolitan Area. CA = Census Agglomeration. MIZ = Metropolitan Influence Zone.*

4.3.2: Active Transportation Interaction Models

Figure 12 demonstrates the age by annual household income interaction terms as predicted probabilities from the parameter estimates in **Table 11**. The graph indicates that the level of reported active transportation generally decreased as age and annual household income increased among adult Métis. Also indicated by the graph is the statistically significant age group 50 to 64 by annual household income $35,000 to $60,899 interaction term. This significant interaction term suggests that the effect of income on the level of reported active transportation among those aged 50 to 64 was different from its effect on the level of active transportation among younger adult age groups. Adult Métis aged 50 to 64 with an annual household income between $35,000 to $60,899 were significantly more likely to report lower levels of active transportation compared to those in the lowest income quartile, a finding that contrasts what was apparent among other age categories.

Table 11: Logistic Regression Model and Predicted Probabilities for Age and Annual Household Income Interaction Terms Predicting Level of Active Transportation among Adult Métis aged 20 to 64

	B	SE	Odds Ratio
Intercept 3	-1.4467	0.181	0.235
Intercept 2	0.2214	0.1776	1.248
Demographic Variables			
Male	---	---	1.00
Female	**0.2381**	0.0685	**1.269**
20-34	**---**	---	1.00
35-49	-0.1085	0.0748	0.897
50-64	-0.1487	0.0944	0.862
Annual Household Income			
Less than $35,000	**0.278**	0.0967	**1.320**
$35,000 to $60,899	0.149	0.1092	1.161
$60,900 to $95,899	0.0746	0.0856	1.077
Greater than $95,899	---	---	1.000
Significant Interaction Term			
50 to 64 * $35,000 to $60,899	**-0.3357**	0.1568	**0.715**

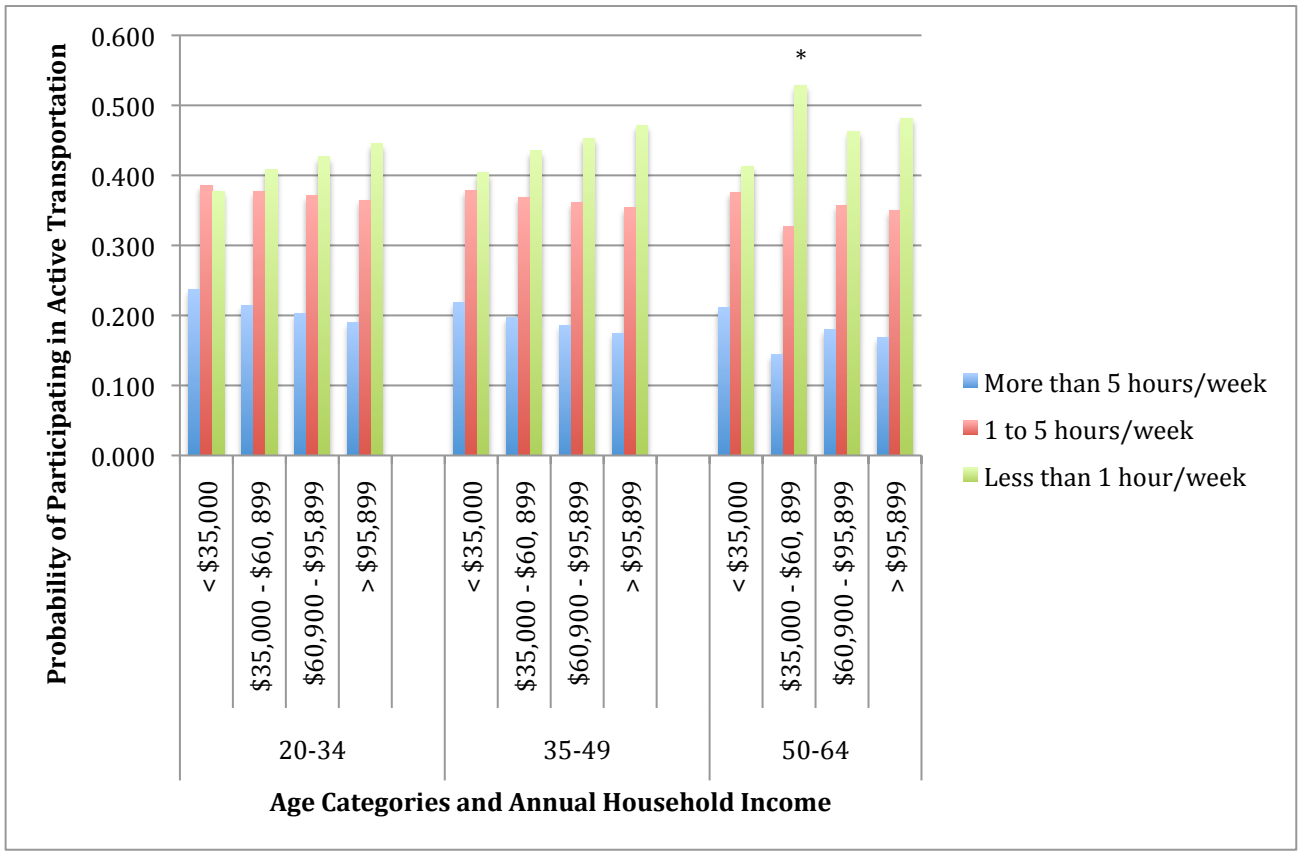
Calculated Predicted Probabilities for Age by Income Interactions

		Level of Active Transportation		
Age Categories and Income Quartiles		More than 5 hours/week	1 to 5 hours/week	Less than 1 hour/week
20-34	Less than $35,00	0.237	0.385	0.377
	$35,000 to $60,899	0.214	0.377	0.408
	$60,900 to $95,899	0.202	0.371	0.426
	Greater than $95,899	0.190	0.364	0.444
35-49	Less than $35,00	0.218	0.378	0.403
	$35,000 to $60,899	0.196	0.368	0.434
	$60,900 to $95,899	0.185	0.361	0.453
	Greater than $95,899	0.174	0.353	0.471
50-64	Less than $35,00	0.211	0.375	0.413
	$35,000 to $60,899	**0.144**	**0.327**	**0.528**
	$60,900 to $95,899	0.179	0.357	0.463
	Greater than $95,899	0.168	0.349	0.481

Table 11 Continued.

Notes: The model displays estimates when controlling for education, geographic, health-related, and Aboriginal-specific variables. Bootstrapped estimates are shown. All non-significant interactions are not shown and were made equal to zero. Bolded values indicate significance at p = < 0.05.

Figure 12: Predicted Probability of Participating in More than 5 Hours, from 1 to 5 Hours, and Less than 1 hour of Active Transportation per Week including Age and Income Interaction Terms among Adult Métis aged 20 to 64



Notes: This graph shows the predicted probability of reporting more than five hours, from one to five hours, and less than one hour of active transportation per week, controlling for geographic, socioeconomic, health-related, and Aboriginal-specific variables. Predicted probabilities were calculated from the parameter estimates in ***Table 11*** *and all non-significant interactions were made equal to zero. An asterisk (*) represents significance at p = < 0.05.*

4.3.3: Occupational Physical Activity Interaction Models

Age by gender interaction terms are represented in **Figure 13** as predicted probabilities from the parameter estimates in **Table 12.** The graph indicates that men were more likely to report a high level of occupational physical activity compared to women. In addition, younger adult age groups were generally more likely to report higher levels of occupational physical activity among both men and women. However, age may have a different effect on the level of reported occupational physical activity depending on gender, as indicated by the statistically significant women by age group 50 to 64 interaction term. Among adult Métis women aged 50 to 64, there appears to be an equal probability of moderate or low levels of occupational physical activity having been being reported, unlike what was observed among men in the same age category.

Table 12: Logistic Regression Model and Predicted Probabilities for Age and Gender and Age and Drinking Interaction Terms Predicting Level of Occupational Physical Activity among Adult Métis aged 20 to 64

	B	SE	Odds Ratio
Intercept 3	-1.5214	0.1945	0.2184
Intercept 2	0.2945	0.1954	1.3425
Demographic Variables			
Male	---	---	1.00
Female	**-0.4745**	0.1097	**0.6222**
20-34	---	---	1.00
35-49	**-0.2956**	0.0791	**0.7441**
50-64	**-0.5712**	0.1276	**0.5685**
Binge Drinking			
No	---	---	1.00
Yes	0.00816	0.0938	1.0082
Significant Interaction Term			
Female * 50-64	**0.3614**	0.1486	**1.4353**
Binge Drinking * 50-64	**0.5427**	0.195	**1.7206**

Calculated Predicted Probabilities for Age by Gender Interactions

		Level of Active Occupational Physical Activity		
Gender and Age Categories		Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	Usually sit during the day and don't walk around very much
Male	20-34	0.179	0.394	0.427
	35-49	0.140	0.360	0.500
	50-64	0.110	0.321	0.569
Female	20-34	0.120	0.335	0.545
	35-49	0.092	0.363	0.545
	50-64	**0.099**	**0.446**	**0.455**

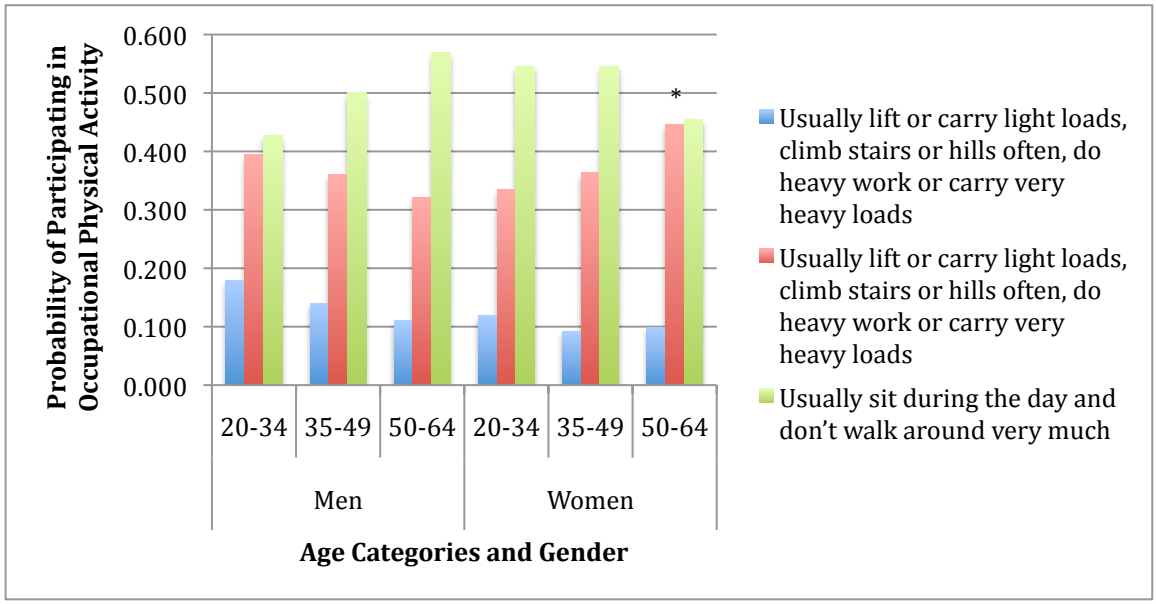
Table 12 Continued.

Calculated Predicted Probabilities for Age by Binge Drinking Interactions

		Level of Occupational Physical Activity		
Binge Drinking and Age Categories		Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	Usually lift or carry light loads, climb stairs or hills often, do heavy work or carry very heavy loads	Usually sit during the day and don't walk around very much
Binge Drinking	20-34	0.180	0.395	0.425
	35-49	0.141	0.434	0.425
	50-64	**0.176**	**0.523**	**0.300**
No Binge Drinking	20-34	0.179	0.394	0.427
	35-49	0.140	0.360	0.500
	50-64	0.110	0.321	0.569

Notes: The model displays estimates when controlling for geographic, socioeconomic, health-related, and Aboriginal-specific variables. Bootstrapped estimates are shown. All non-significant interactions are not shown and were made equal to zero. Bolded values indicate significance at p = < 0.05.

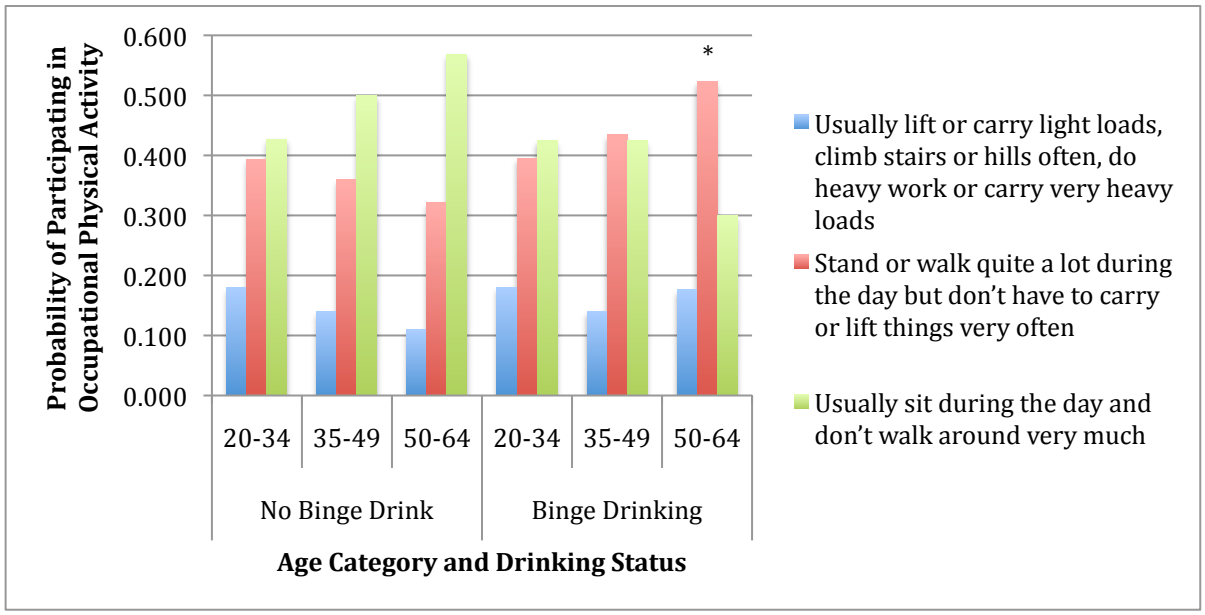
Figure 13: Predicted Probability of Reporting Various Levels of Occupational Physical Activity including Age and Gender Interaction Terms among Adult Métis aged 20 to 64



*Notes: This graph shows the predicted probability of reporting a particular level of occupational physical activity per week, controlling for geographic, socioeconomic, health-related, and Aboriginal-specific variables. Predicted probabilities were calculated from the parameter estimates in **Table 12** and all non-significant interactions were made equal to zero. An asterisk (*) represents significance at p = < 0.05.*

Figure 14 demonstrates the age by binge drinking interaction terms for level of occupational physical activity. The graph indicates that binge drinking did not influence the level of reported occupational physical activity. Again, the graph shows that younger adult Métis were more likely to report a high level of occupational physical activity compared to older adult age groups. Also represented is the significant age group 50 to 64 by binge drinking interaction term, which suggests that the relationship between binge drinking and occupational physical activity may be different for older age groups compared to younger ones. Adult Métis aged 50 to 64 who reported binge drinking were significantly more likely to report somewhat higher levels of occupational physical activity compared to those who did not report binge drinking.

Figure 14: Predicted Probability of Reporting Various Levels of Occupational Physical Activity including Age and Binge Drinking Interaction Terms among Adult Métis aged 20 to 64



Notes: This graph shows the predicted probability of reporting a particular level of occupational physical activity per week, controlling for geographic, socioeconomic, health-related, and Aboriginal-specific variables. Predicted probabilities were calculated from the parameter estimates in ***Table 12*** *and all non-significant interactions were made equal to zero. An asterisk (*) represents significance at p = < 0.05.*

4.4 Model Diagnostics

Residual plots and leverage plots were created to test whether the underlying assumptions of the logistic regression analyses were violated. The residual plots and leverage plots identified some outliers, but overall, these outliers were not removed from the models because it appeared as though they were having little influence on the estimated regression coefficients.

Chapter 5: Discussion

The focus of this study was to gain a better understanding of the correlates of leisure-time physical activity, active transportation, and occupational physical activity among adult Métis. In particular, the study investigated how smoking, binge drinking, and BMI were associated with physical activity among this population. Another main objective of the study was to examine how Aboriginal-specific determinants of health, such as cultural continuity, language, participation in traditional activities, and spirituality might be associated with physical activity. How the correlates differed for leisure-time, active transportation, and occupational physical activity was another focal point of this research. This study used data from the 2006 APS and Métis Supplement and analyses were conducted using a series of binary and ordinal logistic regression models. In the following sections, major findings regarding leisure-time physical activity, active transportation, and occupational physical activity are discussed and interpreted with respect to the study's research questions. In addition, the correlates of each type of physical activity are compared, and study limitations, strengths, and implications are discussed.

5.1: Leisure-Time Physical Activity among Adult Métis

This section will discuss the findings related to leisure-time physical activity, which is characterized as participation in sports and outdoor activities for enjoyment or for exercise. However, it is first important to review the CSEP exercise guidelines and how they are related to leisure-time physical activity. CSEP recommends that adults participate in 150 minutes of moderate to vigorous physical activity, bodily movement that causes elevations in heart rate and breathing, per week (CSEP, 2012). The type of activity referred to in the guidelines does not only refer to just purposeful exercise, but rather makes references to any type of physical

movement that requires moderate to vigorous exertion (CSEP, 2012). As reviewed earlier in this paper, active transportation and occupational activity can also be categorized as moderate to vigorous exertion depending on their intensity. Since the literature on physical activity participation among Aboriginal peoples almost exclusively focuses on purposeful leisure-time physical activity, there are flaws in comparing the findings in the literature to the CSEP guidelines, considering that types of physical activity beyond leisure-time have not often been captured by previous studies. Nevertheless, it is still useful to compare the physical activity levels reported in the literature and the levels reported in the present study with the guidelines because meeting the CSEP recommendations is known to benefit health and reduce the risk of developing the chronic diseases that heavily affect adult Métis (CSEP, 2012).

Despite the CSEP recommendations of 150 minutes of moderate to vigorous physical activity per week, a systematic review of physical activity levels among Aboriginal Canadians has shown that only about 30% reported achieving this level of physical activity (Foulds et al., 2013). However, previous research using APS data has reported significantly greater self-reported leisure-time physical activity levels among Métis, compared to what Foulds et al. (2013) found. Janz et al. (2009) used data from the 2006 APS and observed that 13%, 36%, 20% and 27% of Métis reported participating in no, one to two, three to four, and more than five hours of leisure-time physical activity per week, respectively. In other words, approximately half the sample was participating in three or more hours of leisure-time physical activity per week.

The present study, which was limited by the possible responses to the APS questions, categorized the leisure-time physical activity variable with the CSEP guidelines for exercise as a reference. Therefore, participating in three or more hours of activity per week represented sufficient activity. In terms of leisure-time physical activity level among adult Métis, the results

of this study support what has previously been reported using APS data. Among respondents in this sample, approximately 51% reported participating in three or more hours of leisure-time physical activity that resulted in "an increase in heart rate and breathing", while approximately 49% reported participating in less than three hours per week. The results of the present study differ, although only slightly, from what Janz et al. (2009) found using the same data, likely because of differences in the age range included in the analyses.

There might be a number of reasons why the present study and Janz et al. (2009) found that about half of Métis adults reported participating in three or more hours of leisure-time physical activity per week, a figure somewhat higher than expected. First of all, previous research has demonstrated that Métis are more physically active than non-Aboriginal Canadians and the most active of the Aboriginal groups (Findlay, 2011; Young & Katzmarzyk, 2007). Secondly, relative to previous findings relating to physical activity participation among Aboriginal peoples, the unexpectedly high percentage of Métis who reported participating in three or more hours of leisure-time activity in this study may indicate limitations with the APS and potential bias associated with self-reporting activity levels. The APS questions relating to leisure-time physical activity have not been validated in the research literature.

Also important in considering the APS data is the fact that research has shown that self-reported levels of physical activity are often significantly greater than measured levels. For example, Foulds et al. (2013) found that only 9% of Aboriginal Canadians met physical activity recommendations when accelerometers were used as a measuring tool. However, recent research found that differences between measurement techniques might not be as great as what Foulds et al. (2013) had reported. Data from the Canadian Health Measures Survey have been used to compare self-reported physical activity levels to levels measured using accelerometers. Among

adult Canadians aged 18 to 59, levels of moderate to vigorous physical activity that were self reported only exceeded levels measured using accelerometers by approximately five minutes per day. However, it is noteworthy that bicycling, swimming, weight training and fishing were excluded from the study, as accelerometers do not capture the demands of these activities well (Garriguet & Colley, 2014). Overall, the authors cautioned that conclusions regarding consistent differences between self-reported physical activity levels and levels measured by accelerometry could not be established because of limitations with both techniques (Garriguet & Colley, 2014). The lack of consistent differences between self-reported physical activity levels and measured physical activity levels indicate the need for future research that aims to validate physical activity measurement techniques.

Gender and age, demographic factors commonly found to be associated with physical activity, were significant correlates in the present study. Men were significantly more likely to participate in greater levels of leisure-time physical activity, as were adults in younger age groups. These findings are strongly supported by previous research that has examined the correlates of physical activity among Aboriginal peoples (Fischer, 1999; Harnack et al., 1999; Findlay, 2011; Foulds et al., 2013).

With respect to geography, this study did not find urban/rural geography to be associated with the level of leisure-time physical activity participation among adult Métis. This was surprising, as previous research has found leisure-time physical activity level to be greater in urban areas (Gilmour, 2007; Ding et al., 2011; Findlay, 2011). In particular, greater residential density and mixed land use, characteristics of urban areas, have been shown to predict higher levels of leisure-time physical activity (Ding et al., 2011). Gilmour (2007) found leisure-time physical activity level to be higher among Canadians living in smaller CMAs and CAs compared

to those in rural areas, but also found levels to be lower among those living in the largest CMAs. The fact that the present study did not find a significant difference between urban and rural areas may be partly because the analyses did not differentiate large CMAs from smaller ones.

The only two regional geographic classifications significantly associated with leisure-time physical activity level were British Columbia and the Territories. Adult Métis living in British Columbia were significantly more likely to participate in three or more hours of leisure-time physical activity per week compared to those living in Ontario, a finding in line with what has been previously found among the overall Canadian population using 2005 CCHS data (Gilmour, 2007). On the other hand, the present study found that Métis adults living in the Territories were less likely to be active during their leisure-time compared to those living in Ontario. However, it is noteworthy that the small number of respondents from the Territories might have influenced this finding.

A main area of focus for this study was to investigate the associations between leisure-time physical activity level and health related characteristics and behaviours among adult Métis. Particular attention was paid to this question because previous research has consistently shown that Métis report poorer health than non-Aboriginal Canadians and are more likely to be burdened by chronic conditions such as diabetes, and respiratory and cardiovascular disease (Findlay, 2011; Janz et al., 2009). In addition, Aboriginal Canadians are more inclined to smoke, drink heavily, and are more likely to be obese than non-Aboriginal Canadians (Gionet & Roshanafshar, 2013).

Findlay (2011), Janz et al. (2009) and Fischer et al. (1999) have all previously found a significant positive association between self-perceived physical health and leisure-time physical activity level. The results of the present study support this association, finding that Métis adults

who reported excellent, very good, and good self perceived health were significantly more likely to participate in greater levels of leisure-time physical activity compared to those who rated their health as poor. The association was progressively stronger for respondents who reported higher levels of self-perceived health. This association could suggest that those with better health are more easily able to participate in physically demanding leisure-time activities. On the other hand, those who are more physically active may be benefitting their health and perceiving better overall wellbeing. Either way, this finding gives support to the importance of promoting leisure-time physical activity among adult Métis to better their health.

The present study found that over 40% of adult Métis were smokers, a disturbingly high percentage. Cigarette smoking, which is more prevalent among Métis compared to non-Aboriginal Canadians (Gionet & Roshanafshar, 2013), was significantly associated with less leisure-time physical activity this study. This finding is generally supported by previous research. A systematic review that examined the association between smoking behaviour and physical activity concluded, for the most part, that an inverse association exists between the two behaviours (Kaczynski et al., 2008). A possible explanation that has been suggested for this association is that certain detrimental health behaviours may cluster together. For example, research has shown that smokers are often more likely to binge drink, be physically inactive, and eat fewer servings of fruits and vegetables compared to non-smokers (Strine et al., 2005). Smoking cessation programs or policies, as well as efforts to increase physical activity participation among Métis, are clearly initiatives that would better the health of this population and perhaps limit the existent health disparities that are observed between Métis and non-Aboriginal Canadians.

Unlike smoking status, heavy drinking was not significantly associated with the level of leisure-time physical activity in the present study. There is little research that has examined the association between alcohol consumption and leisure-time physical activity level, particularly among Aboriginal Canadians. However, a cross-sectional study that examined the correlates of physical activity among Dutch adults found that alcohol consumption greater than the national average was associated with less physical activity among men (Mesters, Wahl, & Van Keulen, 2014). Other research has failed to find a strong correlation between alcohol consumption and participation in physical activity among adults (Sallis et al., 1989; Blair et al., 1985). The fact that no significant associations were found in the present study generally supports the current body of literature, which has been unable to consistently find significant correlations between alcohol consumption and physical activity.

Métis are at a higher risk of suffering from obesity than are non-Aboriginal Canadians (Findlay, 2011; Tjepkema et al., 2009). In the present study, adult Métis who were obese were significantly less likely to participate in three or more hours of leisure-time physical activity than those who were of normal weight. This finding was expected, as previous research has demonstrated strong inverse associations between body mass index and level of physical activity (Harnack et al., 1999). Data from the 2005 CCHS demonstrated that Canadians who participated in more leisure-time physical activity were less likely to be overweight or obese (Gilmour, 2007). The significant negative association between level of leisure-time physical activity and obesity suggests that efforts to increase activity among adult Métis might be a particularly important component of reducing the high prevalence of chronic health conditions that burdens this population. Interestingly, in the present study, being overweight was not significantly associated with level of leisure-time physical activity among adult Métis.

Annual household income and highest level of educational attainment were socioeconomic variables controlled for in this study. Annual household income was found to be associated with the level of leisure-time physical activity, as expected, since previous research has demonstrated inverse associations between income and physical activity level (Foulds et al, 2013; Findlay, 2011; Bryan et al., 2006). Research has also shown an inverse relationship between educational attainment and level of leisure-time physical activity (Foulds et al, 2013; Findlay, 2011; Bryan et al., 2006). Therefore, it was unexpected when highest level of educational attainment was not a significant correlate for level of leisure-time physical activity in the present study. We hypothesized that perhaps the effect of annual household income was nullifying the effect of educational attainment in the models. However, educational attainment remained insignificant even in models where annual household income had been removed.

Another main focus of this study was to investigate how Aboriginal-specific variables may be associated with leisure-time physical activity, as the examination of culturally specific determinants of physical activity among Aboriginal Canadians has been identified as an important research direction (Young & Katzmarzyk, 2007). The present study examined how knowledge of an Aboriginal language, attendance at Métis cultural events, being a member of a Métis organization, and spirituality may be associated with the level of participation in leisure-time physical activity, as these factors have been cited as important to the health of Aboriginal peoples (Wilson & Rosenberg, 2002; Richmond & Ross, 2009). No significant associations were found between speaking an Aboriginal language or having an Aboriginal language spoken at home and levels of leisure-time physical activity. Similarly, being a member of a Métis cultural, social, or political organization, and level of spirituality were not significantly associated with leisure-time physical activity.

However, quite interestingly, Métis adults who had recently attended a Métis cultural event were significantly more likely to participate in three or more hours of leisure-time physical activity per week, compared to those who had never attended an event. An explanation for this positive association is not completely clear, but it appears relevant that Wilson & Rosenberg (2002) and Richmond & Ross (2009) identified cultural connections as a particularly important component of an Aboriginal-specific determinants of health framework. It is possible that Métis adults who attend cultural events more regularly are more closely tied to the community and perhaps feel greater social support, which has been identified as an important qualitative correlate of physical activity (Young & Katzmarzyk, 2007; Coble et al., 2006). More research to investigate how attendance at cultural events may influence physical activity participation is needed and may help to further uncover unknown health benefits of culturally specific activities among Métis.

5.2: Active Transportation among Adult Métis

This section will discuss the findings for the second type of physical activity that was investigated in this study, active transportation. As previously outlined, the use of human physical movement to travel from one place to another defines active transportation. It is significant that a considerable amount of health-benefitting activity can be achieved through active transportation (Sallis, Frank, Saelens, & Kraft, 2003), a fact that supports the importance of considering types of physical activity beyond what is just achieved during leisure-time. In addition to discussing the findings related to active transportation, this section will discuss the similarities and differences in the correlates for active transportation and leisure-time physical activity. It is noteworthy that research from the CCHS has demonstrated a positive association

between participating in leisure-time physical activity and participating in physical activity for the purpose of transportation among adult Canadians (Butler et al., 2007). This suggests that Canadians who are active in one component of their lives may be more likely to be active in another. To our knowledge, this is the first study that has examined the correlates of active transportation among Métis. Compared to leisure-time physical activity, the body of literature examining the correlates of active transportation is much smaller, particularly among Aboriginal peoples.

Determining levels of active transportation participation for the present study was a somewhat different process than the one used for the leisure-time physical activity variable. The APS question used to measure active transportation asked, "In a typical week in the past three months, how many hours did you usually spend walking to work or to school or while doing errands?" The wording of the question made it more difficult to use the CSEP guidelines as a benchmark for a sufficient activity level because the type of physical activity captured by the question might not be considered moderate to vigorous in nature depending on the individual responding. Therefore, the present study determined response categories based on the distribution of responses.

The demographic variables, gender and age, were significantly associated with level of active transportation. Women were significantly more likely than men to participate in greater levels of active transportation, the opposite of what was found for leisure-time physical activity. In the literature, there are mixed findings regarding whether men or women are more likely to participate in active transportation. Some research has shown men to be more inclined to participate in active transportation (Gilmour, 2007; Boone-Heinonen et al., 2009), while other findings have demonstrated that women have a greater tendency to walk for the purpose of

transportation (Kwasniewska et al., 2010). Other work has found no significant differences in active transportation levels among men and women (Panter et al., 2011).

Métis adults in the oldest age group, aged 50-64, were significantly less likely to participate in high levels of active transportation compared to those aged 20-34, consistent with what was found with leisure-time physical activity participation among the oldest age group. However, contrary to what was found with leisure-time physical activity participation, adult Métis aged 35-49 were no more or less likely to participate in a high level of active transportation compared to those 20-34, suggesting that the level of active transportation may decrease later in life compared to leisure-time physical activity among adult Métis.

Similarities and differences existed in how active transportation and leisure-time physical activity were associated with geographic variables in the present study. As was found with leisure-time physical activity, the level of active transportation among adult Métis was not associated with the urban/rural geography variable included in the models. This was unexpected because previous research has strongly demonstrated the level of active transportation to be greater in urban areas, such as in CMAs and CAs compared to in rural areas (Gilmour, 2007; Ding et al., 2011; Saelens & Handy, 2008).

While the level of leisure-time physical activity level was associated with living in British Columbia (positive correlation) and the Territories (negative correlation), the level of active transportation was significantly associated with living in Quebec (in models two and three) and the Territories (in all models). Adult Métis living in Quebec and the Territories were significantly less likely than those living in Ontario to participate in a high level of walking for the purpose of transportation. The significant association found among Métis living in Quebec is consistent with 2005 CCHS data representing the overall Canadian population, while the finding

among those living in the Territories contradicts what has previously been found (Gilmour, 2007; Butler et al., 2007). It is quite possible that the significant negative association between level of active transportation and residence in the Territories was influenced by the very low sample size of adult Métis in the Territories region.

The present study found adult Métis in the lowest quartile of annual household income to be significantly more likely to participate in higher levels of active transportation compared to those in the highest quartile, the reverse of what was found with level of leisure-time physical activity. This finding is consistent with other research. Data from the 2003 CCHS demonstrated that lower annual income among Canadians was positively associated with more walking for the purpose of transportation (Butler et al., 2007). Similarly, Kruger et al. (2008) found that walking for transportation was more prevalent among low-income rather than high-income groups in the United States. More walking for the purpose of transport among low-income groups may simply be out of necessity due to a lack of access to alternate transportation.

Similar to findings for level of leisure-time physical activity, the present study found no association between highest level of educational attainment and level of active transportation. However, both CCHS data and American data have shown that level of active transportation may be positively correlated with educational attainment (Butler et al, 2007; Kruger et al., 2008). Regardless of income level and educational attainment, promoting active transportation among adult Métis is important because of its potential health benefits.

A number of the health-related variables examined in the present study were significantly associated with level of active transportation. Adult Métis who reported very good or good self-perceived health were significantly more likely to participate in a higher level of active transportation than those who reported poor self-perceived health. These findings are consistent

with leisure-time physical activity results. It is likely that those with better self-perceived health are more able to walk for the purpose of transportation. In addition, more walking may indeed benefit overall health and wellbeing and increase the likelihood for an individual to report better health. However, it was somewhat surprising that reporting excellent self-perceived health was not associated with level of active transportation, as it was strongly associated with leisure-time physical activity.

Smoking status was not associated with level of active transportation, despite the fact that previous research using CCHS data has demonstrated a significant, but modest, positive association between the two (Butler et al., 2007). This contrasts what the present study found with leisure-time physical activity, where smokers were less likely to participate in a high level of leisure-time physical activity. As was the case with leisure-time physical activity, binge drinking was not associated with level of active transportation in the present study.

With respect to BMI, adult Métis who were overweight or obese were significantly less likely to participate in a high level of active transportation compared to normal weight adult Métis. A similar association was found between obesity and leisure-time physical activity. However, a negative association between being overweight and level leisure-time physical activity was not found, as it was with level of active transportation. Without being able to make firm conclusions on the causality of this relationship, it seems reasonable to expect that walking more for the purpose of transportation seems to reduce the likelihood of being overweight or obese. It is also possible that those with normal weight find it easier and more comfortable to walk and therefore are more likely to participate in greater levels of walking for the purpose of transportation compared to those who are overweight or obese. The results of the present study certainly suggest that initiatives designed to promote active transportation among adult Métis

may be particularly important considering the significant associations between body mass index and active transportation and considering the fact that adult Métis are more likely to be overweight or obese compared to the overall Canadian population.

As with leisure-time physical activity, associations between active transportation and Aboriginal-specific variables were examined. The present study found that most Aboriginal-specific variables were not significantly correlated with level of active transportation. Speaking an Aboriginal language or having an Aboriginal language spoken at home, being a member of a Métis organization, and level of spirituality were never significantly associated with active transportation in the present study. Similarly, these variables were not associated with level of leisure-time physical activity. However, Métis adults who had attended a Métis cultural event were significantly more likely to report higher levels of active transportation, compared to Métis adults who had never attended. Despite there being no strikingly clear explanation for this association, the finding is interesting because level of leisure-time physical activity was also positively associated with recent attendance at a Métis cultural event. As mentioned in section **5.1**, those who attend cultural events more frequently may be more active because they are more connected with their community and sense greater social support. This finding suggests that certain culturally specific factors may indeed be associated with active transportation and more research examining these associations is needed.

5.3: Occupational Physical Activity among Adult Métis

Occupational physical activity was the third type of activity examined in this study. Daily activities at work or around the home are considered occupational physical activity and can significantly impact overall activity level and provide important health benefits (Kriska et al.,

2001). Taking occupational activities into consideration when examining physical activity participation among Métis is important because there has been little research examining the correlates of occupational activity to date, particularly among Aboriginal Canadians. This section will discuss the findings relating to occupational physical activity among adult Métis and will examine how the correlates differed between occupational physical activity and the other types of physical activity investigated in this study. Similar to how CCHS data demonstrated a positive association between participating in active transportation and participating in leisure-time physical activity, research has shown that Canadians who frequently walk for the purpose of transportation are also much more likely to participate in a high level of occupational activity (Butler et al., 2007). In addition, Canadians who are more active in their leisure time are also more active in their usual daily activities (Gilmour, 2007). Again, this seems to indicate that individuals who are active in one component of their lives are more likely to be active in other areas, such as around their home or at work.

In the present study, men were much more likely to participate in a high level of activity at work or around the home. This finding is consistent with what was found with leisure-time physical activity, but is the opposite of the gender association with active transportation. The finding that Métis men were significantly more likely than Métis women to participate in a high level of occupational activity seems to be supported by 2006 Census data which indicated that 38% of Métis men worked in trades, transport, or other physically demanding occupations (Janz et al., 2009). In addition, Métis men are significantly more likely to participate in heavy occupational work compared to the overall Canadian population (Janz et al., 2009).

Age was also significantly associated with level of occupational physical activity, demonstrating that younger adult Métis were more likely to report a high level of occupational

activity. Younger adult Métis were also more likely to participate in higher levels of leisure-time physical activity and active transportation compared to older adult Métis.

In terms of geography, occupational physical activity was the only type of physical activity examined in the present study that was significantly associated with urban/rural residence. Again, this was surprising, considering that it was hypothesized that leisure-time physical activity and active transportation would also be associated with urban/rural geography. This study demonstrated that Métis adults living in rural areas were significantly more likely to participate in a high level of occupational physical activity, compared to those living in urban areas. Contrary to the findings of the present study, research examining occupational physical activity in the overall Canadian population did not find the level of occupational activity to be significantly associated with urban/rural geography (Gilmour, 2007).

The only regional geographic area positively associated with level of occupational physical activity was British Columbia, a finding consistent with what was found between regional geography and level of leisure-time physical activity in the present study. Similarly, Gilmour (2007) demonstrated that Canadians living in British Columbia were more likely to participate in a high level of activity in their occupations or daily activities. Gilmour (2007) also found Canadians participated in a higher level of occupational activity in the Atlantic Provinces and the Prairies, whereas the present study did not find these associations to be significant among adult Métis.

With respect to self-perceived health, adult Métis with excellent, very good, and good self-ratings were considerably more likely to participate in a high level of occupational physical activity, compared to those with fair or poor self-perceived health. Similar to the associations between self-perceived health and leisure-time physical activity, the associations were

progressively stronger with higher ratings of health. It is quite possible that this association is simply explained by the fact that adult Métis with better health are more easily able to work at occupations that are physically demanding. However, it is noteworthy that occupational physical activity has been shown to provide health benefits among Aboriginal peoples in terms of cardiorespiratory fitness (Kriska, 2001) and decreased incidence of diabetes (Kriska et al., 2003)

Particularly interesting was the fact that the present study did not demonstrate a significant association between BMI and level of occupational physical activity. This finding opposes what was found with leisure-time physical activity and active transportation, where a higher BMI was correlated with less activity. Research that has examined the prevalence of obesity by occupation has demonstrated that individuals working in construction and other related jobs are more likely to be obese than white-collar workers, despite greater physical occupational demands (Gu et al., 2014; Park, 2005). On the other hand, research on obesity prevalence by occupation in Washington State has demonstrated that adults who work at jobs that are more physically demanding are less likely to be obese (Bonauto, Lu, & Fan, 2014). It is possible that the lack of association between BMI and level of occupational physical activity demonstrated by the present study indicates factors beyond physical demands, such as job strain, diet, and work culture, may influence the likelihood of obesity (Luckhaupt, Cohen, & Calvert, 2014). More research examining job characteristics and their influence on body mass is needed among Adult Métis.

Also differing from leisure-time physical activity and active transportation was the finding that adult Métis who smoke were significantly more likely to participate in a high level of occupational activity. The positive association between smoking and level of occupational physical activity might be explained by research that has studied smoking prevalence among

those working physically demanding jobs. Research has demonstrated a higher prevalence of smoking among those working in construction and the trades compared to those doing white-collar jobs (Chin, Hong, Gillen, Bates, & Okechukwu, 2013; Fujishiro, Stukovsky, Roux, Landsbergis, & Burchfiel, 2012). Although occupational physical activity can improve physical fitness and can benefit health, it is troubling that adult Métis who report high levels of occupational physical activity are more likely to be smokers. This highlights the importance of interventions aimed at reducing the prevalence of smoking among those working blue-collar jobs.

Binge drinking was not associated with level of occupational physical activity. Similarly, binge drinking was not associated with the level of leisure-time physical activity or active transportation among adult Métis.

Level of occupational physical activity was correlated with both annual household income and highest level of educational attainment. Occupational physical activity was the only type of physical activity examined in the present study to be correlated with educational attainment. Adult Métis who had attained less than a high school education or a high school education were significantly more likely to report a high level of occupational activity than those with some post-secondary education or more. This association is supported by the fact that Canadians who have achieved a high level of education are more likely to have occupations that are less physically demanding (Statistics Canada, 2013). With respect to income, adult Métis in the three lower quartiles of annual household income were significantly more likely to report a high level of occupational activity compared to those in the highest quartile, the opposite of the association between leisure-time physical activity and annual household income. Canadians with high incomes are more likely to have attained a post secondary education and therefore more

likely to work in positions that do not require a high degree of manual labour (Statistics Canada, 2013).

With respect to Aboriginal-specific variables, the only significant correlation observed with level of occupational physical activity was level of spirituality. Adult Métis who reported being moderately or very religious or spiritual were significantly more likely to report a high level of occupational activity compared to those who reported being minimally or not at all religious or spiritual. A clear explanation for this association is not immediately clear. However, attending religious services and encouragement from tribal leaders to be physically active have been cited as important in predicting physical activity among Native American women (Thompson, 2003). In addition, there is research that has suggested that spirituality may be positively associated with leisure-time physical activity participation among African American men and women (Bopp et al., 2007). With focus group methodology, Bopp et al. (2007) demonstrated that some African American men and women found strength from their spirituality to be physically active. Furthermore, some African Americans reported that social connections at church positively influenced their participation in physical activity (Bopp, 2007). It is not clear why the present study found a positive association between spirituality and occupational physical activity, but not between spirituality and the other types of physical activity.

Noteworthy is that recently attending a Métis cultural event was not associated with level of occupational physical activity, a finding that contrasted with what was observed with leisure-time physical activity and level of active transportation. More research is needed to explore how spirituality and cultural connections may influence physical activity participation among Métis.

5.4: Summary

This study examined three different types of physical activity: leisure-time physical activity, active transportation, and occupational activity as related to the health status of the adult Métis population. Analyzing all three types of activity individually was essential as all three categories of activity underlie an active lifestyle, conferring significant health benefits. Such benefits are particularly important, considering the health disparities observed between adult Métis and non-Aboriginal Canadians. Moreover, examining all three is particularly important since the correlates of active transportation and occupational physical activity are understudied, particularly among Métis. In addition to investigating how the correlates of the three types of activity differed from one another, major research interests included analyzing how the categories of activity were associated with health related and Aboriginal-specific variables.

An important element of the present study was the investigation of the ways in which demographic, geographic, and socioeconomic variables were associated with each type of physical activity. These variables were controlled for in the analyses. Demographically, men were more likely to participate in higher levels of leisure-time physical activity and occupational physical activity, while women were found to participate in more active transportation. On the whole, greater participation levels for all types of activity were reported among younger adult Métis age groups, perhaps underlying the importance of promoting an active lifestyle at all stages of the lifecourse. Out of the three types of physical activity, only occupational physical activity was associated with urban/rural geography, with greater levels of activity reported in rural areas. As mentioned, this was unexpected, as leisure-time physical activity and active transportation have consistently been shown to be positively associated with urban residence (Gilmour, 2007; Ding et al., 2011; Findlay, 2011). Leisure-time and occupational physical

activity participation were reported to be significantly greater in British Columbia, while in the Territories, both of these types of physical activity presented lower participation. Greater leisure-time physical activity was reported among those with the greatest annual household income, while the opposite relationship was found for active transportation and occupational physical activity. The only type of activity associated with educational attainment was occupational physical activity, with levels being higher among Métis adults with less than high school or high school education, compared to those who had some post-secondary education or more.

Adult Métis are more likely to smoke and report heavy drinking and are more often obese than non-Aboriginal Canadians (Gionet & Roshanafshar, 2013). In addition, poorer health is more frequently reported among this population, compared to the overall Canadian population (Findlay, 2011; Tjepkema et al., 2009). Therefore, examining how smoking status, alcohol consumption, BMI, and self-perceived health were associated with the types of physical activity became an important focus of this study. Troubling was the finding that 42% of adult Métis reported being smokers. The present study demonstrated that those who were more active in their leisure-time were less likely to smoke, while level of active transportation was not associated with smoking status. However, those who reported a high level of occupational activity were significantly more likely to be smokers, a disturbing finding that highlights the need for interventions to address smoking prevalence among those who work physically demanding occupations. An inverse association was observed between BMI and both the level of leisure-time physical activity and active transportation, but occupational activity was not correlated with BMI. Binge drinking was not correlated with any of the three types of physical activity. For all types of physical activity, adult Métis with higher ratings of self-perceived health were more likely to report higher participation levels. Encouraging are the positive associations between

greater leisure-time physical activity and smoking status, BMI, and self-perceived health. These findings suggest that initiatives encouraging more leisure-time physical activity among adult Métis are no doubt an important health promoting strategy. Also clear is the need to consider active transportation and occupational physical activity as potentially important components of an active lifestyle, as there appear to be connections between self-reported ratings of health and participation levels.

Another main research interest of the present study was the investigation of how Aboriginal-specific variables may be associated with the three types of physical activity. Particularly interesting was the finding that adult Métis who had recently attended a Métis cultural event were significantly more likely to be active in their leisure-time and were more apt to participate in a high level of active transportation, compared to those who had never attended a Métis cultural event. In addition, those who reported being more religious or spiritual were more likely to have reported that they engaged in a high level of occupational physical activity, a result that requires further investigation. Overall, these findings may suggest that culturally specific events may be a good vehicle for promoting active lifestyles and bettering the overall health among adult Métis.

5.5: Study Limitations

The present study has a number of limitations. First of all, there are certain difficulties with the APS questions that were used to measure physical activity. There is a good possibility that physical activity levels were somewhat over-reported, as discussed in section **5.1**. Moreover, the physical activity questions on the APS have not been validated. In addition, the APS did not collect data on frequency and duration of participation of specific leisure-time physical activities,

making it impossible to determine a MET value of physical activity participation. Being able to determine a MET value would have allowed for a better classification of physical activity level, similar to the method used by Finlay (2011), Bryan et al. (2006), and Gilmour (2007). We recommend that future releases of the APS collect data on the frequency and duration of specific physical activities to permit for the calculation of an approximate metabolic expenditure and to allow for the data to be more easily compared to previous research that has used the CCHS.

Another limitation with the present study is the cross-sectional nature of the data, which makes it difficult to determine the direction of the associations between physical activity and the correlates that were examined.

An additional limitation may exist because of the survey's postcensal design. Although the response rate of the census was very high, Aboriginal Canadians who did not respond to the census would not have been sampled for the 2006 APS. This is of concern because the demographic least likely to respond to the census is one that is young, highly mobile, and of lower income, characteristics more common among Métis compared to the overall Canadian population (Statistics Canada, 2010). Therefore, a potential bias may exist because a particular segment of the Métis population may have been underrepresented in the APS sampling.

5.6: Study Strengths and Implications

Despite certain inevitable limitations imposed on this study by the types of data available, the results are significant for a number of reasons. Perhaps one of the most important resides in the differences observed among the correlates bearing on the types of physical activity analyzed. These differences permit the identification of the segments of the adult Métis population that are more or less likely to participate in a given type of physical activity. With respect to modifiable

health behaviours, the study undertaken made it clear that leisure-time physical activity participation is strongly associated with self-perceived health, being a healthy weight and a decreased likelihood of smoking, suggesting the importance of promoting such physical activity to improve health and decrease the likelihood of chronic health conditions among adult Métis. In addition, significant associations demonstrated between level of active transportation and body weight demonstrate that initiatives or programming to increase such transportation among adult Métis will have evident health benefits for them. The positive association between smoking and occupational physical activity level revealed by this study, indicate that future initiatives are needed to address smoking among adult Métis who participate in physically demanding occupations.

This study also identified the ways in which gender, age, geography, education, and income were correlated with greater or lesser physical activity participation among adult Métis. Consequently, demographics, geography, and socio-economic variables are clearly important to consider when designing policies or programming to increase physical activity participation and improve the health of adult Métis. Specifically, promoting more leisure-time physical activity among women and more active transportation among men might be a way of addressing gender differences in physical activity participation that were indentified by the data. In addition, initiatives to increase leisure-time physical activity participation could be especially important among those with lower income, considering the low participation rates among this segment of the population. Promoting leisure-time physical activity and active transportation among older adult age groups should also be a focus in order to combat the lower rates of participation that were observed among them.

Particularly significant from the perspective of the underlying data is the fact that the Métis Supplement was developed in collaboration with the Métis National Council, an initiative that helped to ensure that the list of physical activities included in the Métis supplement was representative of the activities frequently participated in among Métis. Previous research examining physical activity among Aboriginal Canadians has suggested that the list of physical activities in other surveys, like the CCHS, may not capture some common activities, such as hunting or trapping, canoeing, and snow-shoeing (Findlay, 2011).

In addition, to our knowledge, this is the first study to investigate Aboriginal-specific variables and their associations with physical activity, an area of research that had previously been identified as needing more examination (Young & Katzmarzyk, 2007). The present study found positive associations between physical activity and participating in Métis cultural events, suggesting that interventions aimed at increasing physical activity may be more successful among some adult Métis if they are culturally sensitive. Such a positive correlation could also serve as an incentive to increase culturally relevant activities with a physical dimension among this population. It may also point to the importance of promoting cultural engagement among adult Métis, with better health being one of the potential outcomes of such initiatives. Among the directions for expanded research indicated in this chapter, one of the most valuable areas of future investigation would appear to be qualitative and quantitative research that attempts to further uncover the associations between culturally specific events and physical activity among Métis, with a view to evaluating how such events may promote health among this population.

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Aboriginal Peoples Survey 2006 and Métis Supplement (Adults - aged 15 and over)

Collected under the authority of the *Statistics Act*, Statutes of Canada, 1985, Chapter S19.

Aussi disponible en français

INTRODUCTION

Hello/Bonjour, I'm… from Statistics Canada. May I speak with ___?

Statistics Canada, in partnership with Aboriginal organizations, is conducting the Aboriginal Peoples Survey to collect data on lifestyles and living conditions of Aboriginal people in Canada.

This information will help Aboriginal organizations and communities along with various levels of government understand the needs of Aboriginal people in Canada. To reduce the number of questions asked, information relating to your household collected during the 2006 Census, will be added to the information you provide in this survey. All information will be kept confidential and used for statistical purposes only. While your participation is voluntary, your assistance is very important to ensure that the survey results depict an accurate picture.

CONFIDENTIAL WHEN COMPLETED

Form Type 0 5

FINAL OUTCOME CODE

- 70 Complete
- 71 Partial
- 76 Not Aboriginal
- 10 No contact
- 20 Absent for duration of survey
- 22 Language barrier (not official language)
- 36 Unable to trace
- 56 Not eligible
- 64 Deceased
- 80 Refusal
- 81 Part refusal
- 90 Unusual/Special circumstances

PROV CD CU HHNUM PNUM

Completed by: 1 Telephone 2 Visit

FOR INFORMATION ONLY

FILL SECTION IN ONLY IF INFORMATION ON LABEL HAS CHANGED OR IS INCORRECT

Family Name

Given Name

Number and Street or lot and concession or exact location

R.R. No. P.O. Box No. City, Town, Village, Municipality, Indian Reserve

Province or Territory Postal code Area code ( ) Telephone Number -

INFORMATION SOURCE

Language of Interview

- 01 Atikamekw - Manawan
- 02 Atikamekw - Opticiwon
- 03 Cree - Plains
- 04 Cree - Quebec
- 05 Cree - Swampy
- 06 Dene
- 07 Mi'kmaq
- 08 Michif
- 09 Montagnais
- 10 Ojibwe
- 11 Oji-Cree
- 12 Inuktitut - Labrador
- 13 Inuktitut - Nunavik
- 14 Inuktitut - Nunavut
- 15 Inuktitut - Inuinnaqtun
- 16 Inuktitut - Inuvialuktun
- 17 English
- 18 French
- 19 Other - *Specify*

Person responding

1 Selected respondent ***OR***

- 2 Proxy – parent or child
- 3 Proxy – other family
- 4 Other

Reason

- 1 Selected respondent unable to answer
- 2 Selected Respondent absent

Interviewer's Identification Number

Interviewer's Assignment Number

Interviewer's Signature

Batch Number

Day Month Year

8-4500-121.1: 2006-08-18 STC/HFS-122-04461

PART 1

IDENTIFICATION

PERSONAL INFORMATION

1. Do any of your ancestors belong to any of the following Aboriginal groups?
(INTERVIEWER: Read list and wait for a response after each question. Mark Yes, No, Don't know or Refused to each.)

	Yes	No	Don't know	Refused
North American Indian	01	02	03	04
Métis	05	06	07	08
Inuit	09	10	11	12

2. Are you an Aboriginal person, that is, North American Indian, Métis or Inuk?

1 Yes, North American Indian
2 Yes, Métis
3 Yes, Inuk
4 No
7 Don't know
8 Refused

3. Are you a Treaty Indian or a Registered Indian as defined by the *Indian Act* of Canada?

1 Yes, Treaty Indian or Registered Indian
2 No
7 Don't know
8 Refused

4. Have you ever applied to the Department of Indian Affairs and Northern Development to be registered as a status Indian under Bill C-31?

1 Yes → **Have you been registered as a Status Indian under Bill C-31?**
2 No
7 Don't know
8 Refused

1 Yes
2 No
7 Don't know
8 Refused

5. Are you a member of an Indian Band or First Nation?

1 Yes, member of an Indian Band or First Nation
2 No
7 Don't know
8 Refused

INTERVIEWER: IF QUESTIONS 1, 2 , 3 AND 5 WERE ALL ANSWERED NO, DON'T KNOW OR REFUSED → THANK RESPONDENT AND END INTERVIEW

6. Sex

1 Male
2 Female
8 Refused

7. Date of birth

Day / *Month* / *Year*

7 Don't know
8 Refused

If October 31, 1991 or before .... 1 ADULT → *CONTINUE WITH THIS QUESTIONNAIRE*

If after October 31, 1991 but before November 1, 2000 .... 2 CHILD → *ADMINISTER CHILDREN AND YOUTH QUESTIONNAIRE*

If after October 31, 2000 ..... 3 CHILD TOO YOUNG → *END INTERVIEW AND THANK RESPONDENT*

FOR MÉTIS RESPONDENTS (Ancestry and/or Identity) ONLY

If Question 1 cell 05 or Question 2 cell 2 are checked (i.e. the respondent identifies as Métis or indicates Métis ancestry) → *Administer PART 2 of the Adult Questionnaire and PART 3 (Métis Supplement)* .....

FOR INFORMATION ONLY

PART 2

Section A - EDUCATION

Now I would like to ask you some questions about your formal education.

A1. Excluding kindergarten, how many grades of elementary and high school have you successfully completed?
(INTERVIEWER: Include High School Equivalency program.)

- 01 No schooling → *GO TO QUESTION A38*

Grades:

- 02 One to five
- 03 Six
- 04 Seven
- 05 Eight
- 06 Nine
- 07 Ten

→ *GO TO QUESTION A3*

- 08 Eleven
- 09 Twelve
- 10 Thirteen
- 97 Don't know
- 98 Refused

→ *GO TO QUESTION A2*

A2. Did you graduate from high school? Please do not include graduation through a High School Equivalency program (GED).

- 1 Yes → *GO TO QUESTION A16*
- 2 No
- 7 Don't know
- 8 Refused

A3. Have you successfully completed a High School Equivalency program (GED)?

- 1 Yes → *GO TO QUESTION A14*
- 2 No
- 7 Don't know
- 8 Refused

A4. Are you currently attending elementary or high school or a High School Equivalency program?

- 1 Yes
- 2 No
- 7 Don't know
- 8 Refused

→ *GO TO QUESTION A14*

A5. Are you a full-time student or a part-time student?

- 1 Full-time
- 2 Part-time, day or evening
- 7 Don't know
- 8 Refused

A6. Is the program you are currently taking a High School Equivalency program?

- 1 Yes → *GO TO QUESTION A14*
- 2 No
- 7 Don't know
- 8 Refused

FOR INFORMATION ONLY

A7. Are any of your teachers Aboriginal?

1 Yes
2 No
7 Don't know
8 Refused

A8. Are any of your teachers' aides Aboriginal?

1 Yes
2 No
3 Not applicable
7 Don't know
8 Refused

A9. Do any of your teachers teach in an Aboriginal language?

1 Yes
2 No
7 Don't know
8 Refused

A10. Do any of your teachers' aides teach in an Aboriginal language?

1 Yes
2 No
3 Not applicable
7 Don't know
8 Refused

A11. Are you being taught an Aboriginal language at elementary or high school?

1 Yes
2 No
7 Don't know
8 Refused

A12. Are you being taught about Aboriginal people at elementary or high school?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION A38

A13. Do you feel that what you are being taught about Aboriginal people is usually accurate, sometimes accurate, seldom accurate or never accurate?

1 Usually accurate
2 Sometimes accurate
3 Seldom accurate
4 Never accurate
7 Don't know
8 Refused

INTERVIEWER: GO TO QUESTION A38

FOR INFORMATION ONLY

A14. Why did you not continue elementary or high school?
(INTERVIEWER: Do not read list. Mark all that apply.)

- 01 ○ Wanted to work
- 02 ○ Had to work
- 03 ○ Bored with school
- 04 ○ School courses too hard/bad results
- 05 ○ Pregnancy/taking care of children
- 06 ○ Problems at home
- 07 ○ To help at home
- 08 ○ No school available/accessible
- 09 ○ Other – *Specify*
- 97 ○ Don't know
- 98 ○ Refused

A15. How old were you when you last took elementary or high school courses? Do not include courses taken later as part of a High School Equivalency Program.

☐☐ *Years old*

- 7 ○ Don't know
- 8 ○ Refused

A16. For the next questions, think only of your LAST YEAR in elementary or high school, including High School Equivalency program. Were any of your teachers in elementary or high school Aboriginal?

- 1 ○ Yes
- 2 ○ No
- 7 ○ Don't know
- 8 ○ Refused

A17. Were any of your teachers' aides Aboriginal?

- 1 ○ Yes
- 2 ○ No
- 3 ○ Not applicable
- 7 ○ Don't know
- 8 ○ Refused

A18. During your last year in elementary or high school, including High School Equivalency program, did any of your teachers teach in an Aboriginal language?

- 1 ○ Yes
- 2 ○ No
- 7 ○ Don't know
- 8 ○ Refused

A19. Did any of your teachers' aides teach in an Aboriginal language?

- 1 ○ Yes
- 2 ○ No
- 3 ○ Not applicable
- 7 ○ Don't know
- 8 ○ Refused

A20. During your last year in elementary or high school, including High School Equivalency program, were you taught an Aboriginal language?

- 1 ○ Yes
- 2 ○ No
- 7 ○ Don't know
- 8 ○ Refused

FOR INFORMATION ONLY

A21. During your last year in elementary or high school (including High School Equivalency program), were you taught about Aboriginal people?

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO QUESTION A23*
8 ○ Refused

A22. Do you feel that what you were taught about Aboriginal people was usually accurate, sometimes accurate, seldom accurate or never accurate?

1 ○ Usually accurate
2 ○ Sometimes accurate
3 ○ Seldom accurate
4 ○ Never accurate
7 ○ Don't know or can't remember
8 ○ Refused

A23. Now, think about any education or training ABOVE the high school level. Have you ever taken some education towards a DIPLOMA, CERTIFICATE or DEGREE above the high school level?
(INTERVIEWER: Include even if not completed.)

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO QUESTION A38*
8 ○ Refused

A24. At what type of educational institution did you take this education?
(INTERVIEWER: Read list. Mark Yes or No to each.)

	Yes	No	Don't know	Refused
a) A University	1 ○	2 ○	7 ○	8 ○
b) A Community college or CEGEP	1 ○	2 ○	7 ○	8 ○
c) A publicly-funded technical institute, or a trade/vocational school	1 ○	2 ○	7 ○	8 ○
d) A private business school or private training institute	1 ○	2 ○	7 ○	8 ○
e) Another school above high school	1 ○	2 ○	7 ○	8 ○

A25. Have you completed the requirements for ANY diploma, certificate or degree for your education or training above the high school level?

1 ○ Yes ➔ *GO TO QUESTION A29*
2 ○ No
7 ○ Don't know
8 ○ Refused

A26. Are you currently taking education towards a DIPLOMA, CERTIFICATE or DEGREE above the high school level?

1 ○ Yes ➔ *GO TO QUESTION A32*
2 ○ No
7 ○ Don't know
8 ○ Refused

FOR INFORMATION ONLY

A27. In what year did you last take post-secondary education?

Year ☐☐☐☐

7 ○ Don't know

8 ○ Refused

A28. Why did you not finish your post-secondary education?
(INTERVIEWER: Do not read list. Mark all that apply.)

01 ○ Pregnant/Caring for own child(ren)

02 ○ Other family responsibilities

03 ○ Own illness/disability

04 ○ Financial reasons (not enough money)

05 ○ Lost interest/lack of motivation

06 ○ Got a job/wanted to work

07 ○ Too old or too late now

08 ○ Courses too hard/bad results

09 ○ Too difficult to be away from home

10 ○ Other – *Specify*

97 ○ Don't know

98 ○ Refused

INTERVIEWER: GO TO QUESTION A34

A29. What certificate(s), diploma(s) or degree(s) have you completed?
(INTERVIEWER: Read or show list if needed; mark all that apply.)

01 ○ Trades certificate or diploma

02 ○ Registered Apprenticeship program

03 ○ Other non-university certificate or diploma (obtained at community college, CEGEP, Technical institute, etc.)

04 ○ University certificate or diploma below bachelor level

05 ○ Bachelor's degree(s) (e.g., B.A., B.Sc., LL.B.)

06 ○ University certificate or diploma ABOVE Bachelor's, BELOW Master's

07 ○ Master's Degree(s) (e.g., M.A., M.Sc., M.Ed.)

08 ○ Degree in medicine, dentistry, veterinary medicine or optometry (M.D., D.D.S., D.M.D., D.V.M., O.D.)

09 ○ Earned doctorate (e.g., Ph.D., D.Sc., D.Ed.)

10 ○ Other – *Specify*

97 ○ Don't know

98 ○ Refused

A30. In what year did you obtain your most recent certificate, diploma or degree?

Year ☐☐☐☐

7 ○ Don't know

8 ○ Refused

FOR INFORMATION ONLY

A31. Are you currently taking education towards a DIPLOMA, CERTIFICATE or DEGREE above the high school level?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

} *GO TO QUESTION A34*

A32. Are you a full-time student or a part-time student?

1 ○ Full-time
2 ○ Part-time, day or evening
7 ○ Don't know
8 ○ Refused

A33. Towards what type of certificate, diploma or degree are you currently working?
(INTERVIEWER: Mark one only. Read or show list if needed.)

01 ○ Trades certificate or diploma
02 ○ Registered Apprenticeship program
03 ○ Other non-university certificate or diploma (obtained at community college, CEGEP, Technical institute, etc.)
04 ○ University certificate or diploma below bachelor level
05 ○ Bachelor's degree(s) (e.g., B.A., B.Sc., LL.B.)
06 ○ University certificate or diploma ABOVE Bachelor's, BELOW Master's
07 ○ Master's degree(s) (e.g., M.A., M.Sc., M.Ed.)
08 ○ Degree in medicine, dentistry, veterinary medicine or optometry (M.D., D.D.S., D.M.D., D.V.M., O.D.)
09 ○ Earned doctorate (e.g., Ph.D., D.Sc., D.Ed.)
10 ○ Other – *Specify*
97 ○ Don't know
98 ○ Refused

A34. Did you take *any* of your post-secondary courses by correspondence or through some other form of distance education? By "distance education" we mean education received via mail or electronic media such as television, CD-ROM or the Internet.

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

A35. Did you apply for financial assistance to carry out any of your post-secondary education?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

} *GO TO QUESTION A38*

A36. Did you receive any type of financial assistance towards your post-secondary education?

1 ○ Yes
2 ○ No
3 ○ On waiting list
7 ○ Don't know
8 ○ Refused

} *GO TO QUESTION A38*

FOR INFORMATION ONLY

A37. What type of financial assistance did you receive?
(INTERVIEWER: Do not read list. Mark all that apply.)

1 ○ Indian and Northern Affairs Canada (INAC) or Band funding
2 ○ Grant, bursary or scholarship
3 ○ Student loan
4 ○ Personal bank loan
5 ○ Other – *Specify*

7 ○ Don't know
8 ○ Refused

The next two questions may be personal. I can skip them if you prefer not to answer.

A38. Were you ever a student at a federal residential school, or a federal industrial school?
(INTERVIEWER: In some regions these are referred to as hostels or dormitories.)

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

} *GO TO NEXT SECTION*

A39. Were any of the following members of your family ever a student at a federal residential school or a federal industrial school?
(INTERVIEWER: Read list. In some regions these are referred to as hostels or dormitories.)

	Not applicable	Yes	No	Don't know	Refused
a) Your grandmothers		01 ○	02 ○	03 ○	04 ○
b) Your grandfathers		05 ○	06 ○	07 ○	08 ○
c) Your mother		09 ○	10 ○	11 ○	12 ○
d) Your father		13 ○	14 ○	15 ○	16 ○
e) Your current spouse or partner	17 ○	18 ○	19 ○	20 ○	21 ○
f) Your brothers or sisters	22 ○	23 ○	24 ○	25 ○	26 ○
g) Your aunts or uncles	27 ○	28 ○	29 ○	30 ○	31 ○
h) Your cousins	32 ○	33 ○	34 ○	35 ○	36 ○
i) Other relatives	37 ○	38 ○	39 ○	40 ○	41 ○

END OF SECTION

FOR INFORMATION ONLY

Section B - LANGUAGE

I would like to ask you some questions about languages you use and your ability to speak, understand, read and write an Aboriginal language. By "Aboriginal language", I mean, for example Cree, Ojibway, Inuktitut, Michif, etc.

B1. Do you speak an Aboriginal language?

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO QUESTION B5*
8 ○ Refused

B2. What Aboriginal language or languages do you speak?

01 _____
02 _____
03 _____

IF ONLY ONE LANGUAGE REPORTED ➔ GO TO QUESTION B4

97 ○ Don't know
98 ○ Refused

B3. Amongst those Aboriginal languages, which Aboriginal language is your primary Aboriginal language? By "primary" we mean the language that you use most often or that you are most comfortable using.

01 _____

97 ○ Don't know
98 ○ Refused

B4. How would you rate your ability to speak this aboriginal language? Would you say you can…

1 ○ **Speak very well?**
2 ○ **Speak relatively well?**
3 ○ **Speak with effort?**
4 ○ **Speak a few words?**
7 ○ Don't know
8 ○ Refused

INTERVIEWER: GO TO QUESTION B8

B5. Do you understand an Aboriginal language even if only a few words?

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO QUESTION B13*
8 ○ Refused

B6. What Aboriginal language or languages do you understand?

01 _____
02 _____
03 _____

IF ONLY ONE LANGUAGE REPORTED ➔ GO TO QUESTION B8

97 ○ Don't know
98 ○ Refused

FOR INFORMATION ONLY

B7. Amongst those Aboriginal languages, which Aboriginal language is your primary Aboriginal language? By "primary" we mean the language that you understand the best.

01 _____

97 ○ Don't know

98 ○ Refused

B8. How would you rate your ability to understand this Aboriginal language? Would you say you can…

1 ○ **Understand very well?**

2 ○ **Understand relatively well?**

3 ○ **Understand with effort?**

4 ○ **Understand a few words?**

7 ○ Don't know

8 ○ Refused

B9. How would you rate your ability to read this Aboriginal language? Would you say you can…

1 ○ **Read very well?**

2 ○ **Read relatively well?**

3 ○ **Read with effort?**

4 ○ **Read a few words?**

5 ○ **Not read in your primary Aboriginal language?**

6 ○ Not applicable (it is not a written language)

GO TO QUESTION B11

7 ○ Don't know

8 ○ Refused

B10. How would you rate your ability to write this Aboriginal language? Would you say you can…

1 ○ **Write very well?**

2 ○ **Write relatively well?**

3 ○ **Write with effort?**

4 ○ **Write a few words?**

5 ○ **Not write in your primary Aboriginal language?**

7 ○ Don't know

8 ○ Refused

B11. How often do you currently use this Aboriginal language…

	All the time	Most of the time	Some of the time	Very seldom	Not at all	Not applicable	Don't know	Refused
a) In your household?	1 ○	2 ○	3 ○	4 ○	5 ○	6 ○	7 ○	8 ○
b) At work	1 ○	2 ○	3 ○	4 ○	5 ○	6 ○	7 ○	8 ○
c) At school?	1 ○	2 ○	3 ○	4 ○	5 ○	6 ○	7 ○	8 ○
d) Elsewhere?	1 ○	2 ○	3 ○	4 ○	5 ○	6 ○	7 ○	8 ○

FOR INFORMATION ONLY

B12. Are any of the following services within your city, town, village available in this Aboriginal language?

	Yes	No	Don't know	Refused
a) Health Services	1	2	7	8
b) Justice, legal, policing services	1	2	7	8
c) Education services	1	2	7	8
d) Employment, career counselling services	1	2	7	8
e) Social services, for example housing, social assistance	1	2	7	8
f) Financial services, for example banking	1	2	7	8
g) Other community services	1	2	7	8

INTERVIEWER: GO TO QUESTION B16

B13. Did you ever understand an Aboriginal language?

1 Yes
2 No
7 Don't know } *GO TO QUESTION B16*
8 Refused

B14. What Aboriginal language did you understand?

(INTERVIEWER: If this person understood more than one language, indicate the language he/she used to understand the best.)

01 _____
97 Don't know
98 Refused

B15. Did you ever speak this Aboriginal language?

1 Yes
2 No
7 Don't know
8 Refused

B16. How important is it that you keep, learn or re-learn your Aboriginal language? Is it…

1 **Very important?**
2 **Somewhat important?**
3 **Not very important?**
4 **Not important?**
5 No opinion
7 Don't know
8 Refused

END OF SECTION

FOR INFORMATION ONLY

Section C - LABOUR ACTIVITY

The following questions are about labour activities that you may have participated in. Some questions may not apply to you but remember that many different people across the country will be taking part in this survey. I will start with a few questions on paid work.

C1. Last week, did you work for pay or in self-employment?
(INTERVIEWER: If respondent worked, mark "Yes" regardless of the number of hours worked.)

1 Yes → *GO TO QUESTION C8*
2 No
7 Don't know
8 Refused
GO TO QUESTION C10

C2. Last week, were you on temporary lay-off or absent from your job or business?

1 Yes
2 No
7 Don't know
8 Refused
GO TO QUESTION C4

C3. Were you:
(INTERVIEWER: Mark one only.)

1 **On temporary lay-off from a job to which you expect to return?**
2 **On vacation, ill, on strike or locked out, or absent for other reasons?** → *GO TO QUESTION C8*
7 Don't know
8 Refused

C4. Did you look for paid work during the past four weeks? For example: did you contact an employment centre, check with employers, place or answer newspaper ads?

1 Yes → *GO TO QUESTION C6*
2 No
7 Don't know
8 Refused
GO TO QUESTION C10

C5. What was the main reason you did not look for work during this period?
(INTERVIEWER: Do not read list. Mark all that apply.)

01 Illness or disability
02 Caring for own children
03 Caring for elder relative(s)
04 Other personal or family responsibilities
05 Going to school
06 Waiting for recall (to former job)
07 Waiting for replies from employers
08 Believe no work available
09 Waiting to start new job
10 Not qualified for available jobs
11 No jobs available in the field in which I was educated or trained
12 Retired
13 No transportation
14 Seasonal employee / Hunting / Fishing / Trapping in the bush / Waiting for freeze-up
15 Other – *Specify*

97 Don't know
98 Refused

INTERVIEWER: GO TO QUESTION C10

FOR INFORMATION ONLY

C6. How did you go about looking for work?

(INTERVIEWER: Do not read list. Mark all that apply.)

- 01 ○ Contacted potential employer(s) directly
- 02 ○ Through friend(s)/relative(s)
- 03 ○ Through co-worker(s)
- 04 ○ Placed or answered newspaper ad(s)
- 05 ○ Contacted public employment agency (Service Canada Centre/Canada Employment Centre, provincial employment centre)
- 06 ○ Contacted private employment agency/placement agency
- 07 ○ Contacted Aboriginal organization or Aboriginal employment agency
- 08 ○ Was referred by another employer
- 09 ○ Searched the Internet
- 10 ○ Was referred by a union
- 11 ○ Other – *Specify*

- 97 ○ Don't know
- 98 ○ Refused

C7. Have any of the following caused you difficulty in finding work?

	Yes	No	Don't know	Refused
a) Not knowing where to look for work	1 ○	2 ○	7 ○	8 ○
b) Not knowing the type of job you wanted	1 ○	2 ○	7 ○	8 ○
c) Not having the work experience required for available jobs	1 ○	2 ○	7 ○	8 ○
d) Not having enough education or training for available jobs	1 ○	2 ○	7 ○	8 ○
e) Not having the means of transportation to get to available jobs	1 ○	2 ○	7 ○	8 ○
f) A shortage of jobs	1 ○	2 ○	7 ○	8 ○
g) Anything else – *Specify*	1 ○	2 ○	7 ○	8 ○

INTERVIEWER: GO TO QUESTION C10

FOR INFORMATION ONLY

C8. The next question refers to the job or business you had last week. If you held more than one job last week, answer for the job that you worked the most hours.

Was this job full-time, that is 30 hours or more per week?

1 ○ Yes → *GO TO QUESTION C10*
2 ○ No
7 ○ Don't know
8 ○ Refused

GO TO QUESTION C10

C9. What are the reasons that have kept you from working at a full-time job?
(INTERVIEWER: Do not read list. Mark all that apply.)

01 ○ Going to school
02 ○ No full-time jobs available in the area where I live
03 ○ No full-time jobs available in the field in which I was educated or trained
04 ○ Health problems
05 ○ Caring for own children
06 ○ Caring for elder relative(s)
07 ○ Other personal or family responsibilities
08 ○ Not qualified for available jobs
09 ○ Retired
10 ○ Don't want to work full-time/Own choice
11 ○ Seasonal work
12 ○ Other – *Specify*

97 ○ Don't know
98 ○ Refused

C10. Have you ever hunted?

1 ○ Yes → **C10a. Have you done this activity in the past 12 months?**
2 ○ No
7 ○ Don't know
8 ○ Refused

1 ○ Yes → **C10b. In the past 12 months, did you hunt for…**
2 ○ No
7 ○ Don't know
8 ○ Refused

	Yes 1	No 2	Don't know 7	Refused 8
a) food	○	○	○	○
b) pleasure	○	○	○	○
c) commercial use	○	○	○	○
d) other use (medicinal, ceremonial)	○	○	○	○

FOR INFORMATION ONLY

C11. Have you ever fished?

1 ○ Yes → **C11a. Have you done this activity in the past 12 months?**

2 ○ No

7 ○ Don't know

8 ○ Refused

1 ○ Yes → **C11b. In the past 12 months, did you fish for…**

2 ○ No

7 ○ Don't know

8 ○ Refused

	Yes (1)	No (2)	Don't know (7)	Refused (8)
a) food	○	○	○	○
b) pleasure	○	○	○	○
c) commercial use	○	○	○	○
d) other use (medicinal, ceremonial)	○	○	○	○

C12. Have you ever trapped?

1 ○ Yes → **C12a. Have you done this activity in the past 12 months?**

2 ○ No

7 ○ Don't know

8 ○ Refused

1 ○ Yes → **C12b. In the past 12 months, did you trap for…**

2 ○ No

7 ○ Don't know

8 ○ Refused

	Yes (1)	No (2)	Don't know (7)	Refused (8)
a) food	○	○	○	○
b) pleasure	○	○	○	○
c) commercial use	○	○	○	○
d) other use (medicinal, ceremonial)	○	○	○	○

FOR INFORMATION ONLY

C13. Have you ever gathered wild plants such as berries, rice or sweet grass?

1 ○ Yes → **C13a. Have you done this activity in the past 12 months?**

2 ○ No

7 ○ Don't know

8 ○ Refused

1 ○ Yes → **C13b. In the past 12 months, did you gather wild plants for …**

2 ○ No

7 ○ Don't know

8 ○ Refused

	Yes (1)	No (2)	Don't know (7)	Refused (8)
a) food	○	○	○	○
b) pleasure	○	○	○	○
c) commercial use	○	○	○	○
d) other use (medicinal, ceremonial)	○	○	○	○

END OF SECTION

FOR INFORMATION ONLY

Section D - INCOME

The next question is about the sources of your personal income.

D1. During the year ending December 31, 2005, did you yourself receive any income from the following sources:

(INTERVIEWER: Read list. Mark Yes or No to each.)

	Yes	No	Don't know	Refused
a) Paid employment or self-employment?	1 ○	2 ○	7 ○	8 ○
b) Employment insurance?	1 ○	2 ○	7 ○	8 ○
c) Old Age Security pension, Guaranteed Income Supplement or Spouse's Allowance from the Federal Government?	1 ○	2 ○	7 ○	8 ○
d) Canada or Quebec Pension Plans?	1 ○	2 ○	7 ○	8 ○
e) Social assistance or welfare benefits?	1 ○	2 ○	7 ○	8 ○
f) Other sources, for example, other government income, child support, alimony, education allowances, scholarships, Northern Allowance, interest, or other?	1 ○	2 ○	7 ○	8 ○

END OF SECTION

FOR INFORMATION ONLY

Section E - HEALTH

Now I would like to ask you some questions about your health and lifestyle.

E1. In general, would you say your health is...

1 ○ **Excellent?**
2 ○ **Very Good?**
3 ○ **Good?**
4 ○ **Fair?**
5 ○ **Poor?**
7 ○ Don't know
8 ○ Refused

E2. In the past 12 months, have you seen or talked on the telephone with the following health professionals about your physical, emotional or mental health?

(INTERVIEWER: Read list. Mark Yes or No to each.)

	Yes	No	Don't know	Refused
a) Family doctor or general practitioner	1 ○	2 ○	7 ○	8 ○
b) Eye doctor, such as an ophthalmologist or optometrist	1 ○	2 ○	7 ○	8 ○
c) Other medical doctor, such as surgeon, allergist or orthopedist	1 ○	2 ○	7 ○	8 ○
d) First Nation, Métis or Inuit Traditional healer	1 ○	2 ○	7 ○	8 ○
e) Nurse	1 ○	2 ○	7 ○	8 ○
f) Dentist or orthodontist	1 ○	2 ○	7 ○	8 ○
g) Chiropractor	1 ○	2 ○	7 ○	8 ○
h) Physiotherapist or occupational therapist	1 ○	2 ○	7 ○	8 ○
i) Social worker, counselor or psychologist	1 ○	2 ○	7 ○	8 ○

FOR INFORMATION ONLY

E3. Are First Nations, Métis or Inuit traditional medicines, healing or wellness practices available in the city, town or community where you currently live?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

The next few questions are about difficulties you might have with various activities.

E4. Do you have any difficulty hearing, seeing, communicating, walking, climbing stairs, bending, learning or doing any similar activities?

1 **Yes, sometimes**
2 **Yes, often**
3 **No**
7 Don't know
8 Refused

E5. Does a physical condition or mental condition or health problem reduce the amount or the kind of activity you can do…

a) at home?

1 **Yes, sometimes**
2 **Yes, often**
3 **No**
7 Don't know
8 Refused

b) at work or at school?

1 **Yes, sometimes**
2 **Yes, often**
3 **No**
4 Not applicable
7 Don't know
8 Refused

c) in other activities, for example, transportation or leisure?

1 **Yes, sometimes**
2 **Yes, often**
3 **No**
7 Don't know
8 Refused

FOR INFORMATION ONLY

The next questions ask about long-term health conditions that you may have now. Long term health conditions are conditions that have lasted or are expected to last six months or more.

E6. Have you been told by a doctor, nurse or other health professional that you have diabetes?

1 Yes → **E6a. At what age were you first told?**

☐☐ *years old*

7 Don't know

8 Refused

2 No

7 Don't know

8 Refused

E6b. Which type(s) of diabetes have you been diagnosed with?

(INTERVIEWER: Mark all that apply.)

1 Type 1

2 Type 2

3 Pre-diabetic state/ Borderline diabetes

7 Don't know

8 Refused

INTERVIEWER:
If female ➔ Go to Question E8
If male ➔ Go to Question E10

E7. Have you been told by a doctor, nurse or other health professional that you are pre-diabetic or borderline diabetic?

1 Yes → **E7a. At what age were you first told?**

☐☐ *years old*

7 Don't know

8 Refused

2 No

7 Don't know

8 Refused

INTERVIEWER:
Go to Question E14

E7b. Has being pre-diabetic or borderline diabetic prompted you to adopt a healthier lifestyle which includes diet and exercise?

1 Yes

2 No

7 Don't know

8 Refused

INTERVIEWER:
Go to Question E14

FOR INFORMATION ONLY

E8. Were you pregnant when you were first diagnosed with diabetes?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION E10

E9. Other than during pregnancy, has a doctor, nurse or other health professional ever told you that you have diabetes?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION E14

E10. Do you currently take insulin for your diabetes?

1 Yes
2 No
7 Don't know
8 Refused

E11. Do you take any other treatment or medication for your diabetes?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION E13

E12. What other treatment or medication do you take?
(INTERVIEWER: Do not read list. Mark all that apply.)

1 Drug
2 Diet
3 Exercise / Physiotherapy
4 Traditional remedies
5 Other – *Specify*
7 Don't know
8 Refused

E13. Has your diabetes ...

	Yes	No	Don't know	Refused
a) Prompted you to adopt a healthier lifestyle which includes diet and exercise?	1	2	7	8
b) Affected your vision (for example, retinopathy)?	1	2	7	8
c) Affected your kidney function?	1	2	7	8
d) Affected your heart?	1	2	7	8
e) Affected your circulation other than your heart?	1	2	7	8
f) Affected the feeling in your hands or feet (for example, neuropathy)?	1	2	7	8
g) Affected your lower limbs?	1	2	7	8
h) Resulted in infections?	1	2	7	8
i) Resulted in amputation?	1	2	7	8

FOR INFORMATION ONLY

E14. Have you been told by a doctor, nurse or other health professional that you have…

(INTERVIEWER: Read list. Complete all parts of question.)

		At what age were you first told?	Do you take any treatment or medication for this condition?	
		Age	*Yes*	*No*
E14 a) Arthritis or rheumatism?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E15 a) Asthma?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E16 a) Chronic bronchitis?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E17 a) Emphysema?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E18 a) Cancer?	1 Yes			
	↓ **What type or types?**			
	→	**b)** →	**c)** 1	2
	→	→	1	2
	2 No			
E19 a) Effects of a stroke?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E20 a) High blood pressure?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E21 a) Heart problems?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E22 a) Stomach problems or intestinal ulcers?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E23 a) Hepatitis?	1 Yes			
	↓ **What type or types?**			
	→	**b)** →	**c)** 1	2
	→	→	1	2
	2 No			
E24 a) Kidney disease?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E25 a) Tuberculosis?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E26 a) HIV?	1 Yes →	**b)** →	**c)** 1	2
	2 No → *GO TO QUESTION E28 a*			
E27 a) AIDS?	1 Yes →	**b)** →	**c)** 1	2
	2 No			
E28 a) Any other long term condition?	1 Yes			
	↓ *Specify*			
	→	**b)** →	**c)** 1	2
	→	→	1	2
	2 No			

FOR INFORMATION ONLY

INTERVIEWER: IF RESPONDENT IS MALE ➔ GO TO QUESTION E31

E29. How many children have you given birth to?
(INTERVIEWER: All children including those who may have died since birth or who may be living elsewhere are to be included. Do not include stillbirths.)

☐☐ *Children*
7 ○ Don't know
8 ○ Refused

E30. Since it is important to know when analyzing health whether or not a person is pregnant, the following question is being asked to all women in the survey. Are you currently pregnant?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

E31. How tall are you without shoes on?

☐☐ *feet* ☐☐ *inches* ***OR*** ☐☐☐☐ *centimeters*

7 ○ Don't know
8 ○ Refused

E32. How much do you weigh?

☐☐☐ *pounds* ***OR*** ☐☐☐ *kilograms*

7 ○ Don't know
8 ○ Refused

The next questions are about smoking.

E33. At the present time do you smoke cigarettes daily, occasionally or not at all?
(INTERVIEWER: Do not read list. Mark one only.)

1 ○ Daily
2 ○ Occasionally ➔ *GO TO QUESTION E37*
7 ○ Not at all ➔ *GO TO QUESTION E36*
8 ○ Refused ➔ *GO TO QUESTION E42*

E34. At what age did you begin to smoke cigarettes daily?

☐☐ *Years old*

7 ○ Don't know
8 ○ Refused

E35. How many cigarettes do you smoke each day now?
(INTERVIEWER: If respondent gives more than one number, enter the highest.)

☐☐ *Cigarettes* ➔ *GO TO QUESTION E42*

7 ○ Don't know
8 ○ Refused

E36. Over your lifetime, have you smoked a total of 100 or more cigarettes, that is about 4 packs?

1 ○ Yes ➔ *GO TO QUESTION E38*
2 ○ No
7 ○ Don't know } *GO TO QUESTION E42*
8 ○ Refused

FOR INFORMATION ONLY

E37. On the days that you smoke, about how many cigarettes do you usually have?
(INTERVIEWER: If respondent gives more than one number, enter the highest.)

☐☐ *Cigarettes*
7 ○ Don't know
8 ○ Refused

E38. Have you ever smoked cigarettes daily?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused
} *GO TO QUESTION E42*

E39. At what age did you begin to smoke cigarettes daily?

☐☐ *Years old*
7 ○ Don't know
8 ○ Refused

E40. How many cigarettes did you usually smoke each day?
(INTERVIEWER: If respondent gives more than one number, enter the highest.)

☐☐ *Cigarettes*
7 ○ Don't know
8 ○ Refused

E41. At what age did you stop smoking cigarettes daily?

☐☐ *Years old*
7 ○ Don't know
8 ○ Refused

FOR INFORMATION ONLY

E42. Now, some questions about alcohol consumption.
When we use the word "drink" it means:

- **one bottle or can of beer or a glass of draft**
- **one glass of wine or a wine cooler**
- **one drink or cocktail with 1 and 1/2 ounces of liquor.**

During the past 12 months, have you had a drink of beer, wine, liquor or any other alcoholic beverage?

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO QUESTION E46*
8 ○ Refused

E43. During the past 12 months, how often did you drink alcoholic beverages?
(INTERVIEWER: Do not read list. Mark one only.)

01 ○ Less than once a month
02 ○ Once a month
03 ○ 2 to 3 times a month
04 ○ Once a week
05 ○ 2 to 3 times a week
06 ○ 4 to 6 times a week
07 ○ Every day
97 ○ Don't know
98 ○ Refused

E44. On the days that you had a drink, how many drinks did you usually have?

___ *Drinks*

7 ○ Don't know
8 ○ Refused

E45. How often in the past 12 months have you had 5 or more drinks on one occasion?
(INTERVIEWER: Do not read list. Mark one only.)

01 ○ Never
02 ○ Less than once a month
03 ○ Once a month
04 ○ 2 to 3 times a month
05 ○ Once a week
06 ○ 2 to 3 times a week
07 ○ 4 to 6 times a week
08 ○ Every day
97 ○ Don't know
98 ○ Refused

FOR INFORMATION ONLY

Now a few questions about your use of various health care services.

E46. Have you ever had a flu shot?

1 Yes
2 No
7 Don't know
8 Refused

→ *GO TO QUESTION E48*

E47. When did you have your last flu shot? Was it…
(INTERVIEWER: Read categories to respondent.)

1 **Less than a year ago?**
2 **1 year to less than 2 years?**
3 **2 years ago or more?**
7 Don't know
8 Refused

E48. In the past 12 months, have you been a patient overnight in a hospital, nursing home or convalescent home, health centre or nursing station?

1 Yes
2 No
7 Don't know
8 Refused

→ *GO TO QUESTION E50*

E49. For how many nights in the past 12 months?

☐☐ *Night(s)*
7 Don't know
8 Refused

E50. In the past 12 months, was there ever a time when you felt you needed health care but didn't receive it?

1 Yes
2 No
7 Don't know
8 Refused

→ *GO TO QUESTION E52*

E51. Thinking of the most recent time, why didn't you get care?
(INTERVIEWER: Do not read. Mark all that apply.)

01 Not available - in the area
02 Not available - at the time required (e.g. doctor on holidays, inconvenient hours)
03 Waiting time too long
04 Felt it would be inadequate
05 Cost
06 Too busy
07 Didn't get around to it/Didn't bother
08 Didn't know where to go
09 Transportation problems
10 Language problems
11 Personal or family responsibilities
12 Dislikes doctors/afraid
13 Decided not to seek care
14 Other – *Specify*

97 Don't know
98 Refused

FOR INFORMATION ONLY

E52. Next are some questions about social supports that are available to you.

People sometimes look to others for companionship, assistance, guidance or other types of support. Could you tell me how often each of the following kinds of support is available to you when you need it:

(INTERVIEWER: Ask about each item. Mark one response for each.)

How often is this available to you?	All of the time	Most of the time	Some of the time	Almost none of the time	Don't know	Refused
a) Someone you can count on to listen to you when you need to talk.	1	2	3	4	7	8
b) Someone you can count on when you need advice.	1	2	3	4	7	8
c) Someone to take you to the doctor or a nurse if you need it.	1	2	3	4	7	8
d) Someone who shows you love and affection.	1	2	3	4	7	8
e) Someone to have a good time with.	1	2	3	4	7	8
f) Someone to confide in or talk about yourself or your problems.	1	2	3	4	7	8
g) Someone to get together with for relaxation.	1	2	3	4	7	8
h) Someone to do something enjoyable with.	1	2	3	4	7	8

E53. The final question in this section asks for your opinion about social problems facing Aboriginal people in this community or neighbourhood.

Are any of the following a problem for Aboriginal people in the community or neighbourhood where you are living now?	Yes	No	Don't know	Refused
a) Suicide?	1	2	7	8
b) Unemployment?	1	2	7	8
c) Family violence?	1	2	7	8
d) Sexual abuse?	1	2	7	8
e) Drug abuse?	1	2	7	8
f) Alcohol abuse?	1	2	7	8
g) Other? *Specify*	1	2	7	8

END OF SECTION

FOR INFORMATION ONLY

Section F - Communication Technology

The next questions relate to your personal use of modern communication technology, whether it be at home, at work or somewhere else.

F1. In the past 12 months, did you use a computer?

1 ○ Yes → *GO TO QUESTION F4*
2 ○ No
7 ○ Don't know
8 ○ Refused

F2. Are you interested in starting to use a computer?

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO QUESTION F5*
8 ○ Refused

F3. What is the greatest barrier that keeps you from using a computer?

01 ○ Cost
02 ○ Lack of access to computer
03 ○ Lack of skills or training
04 ○ Fear of technology
05 ○ No need
06 ○ Not enough time
07 ○ Disability
08 ○ Other – *Specify*

97 ○ Don't know
98 ○ Refused

INTERVIEWER: GO TO QUESTION F5

F4. Where have you used a computer in the past 12 months? Was it...

(INTERVIEWER: Read list. Mark Yes or No to each.)

	Yes	No	Don't know	Refused
a) At home?	1 ○	2 ○	7 ○	8 ○
b) At work?	1 ○	2 ○	7 ○	8 ○
c) At a friend's home?	1 ○	2 ○	7 ○	8 ○
d) At a relative's home?	1 ○	2 ○	7 ○	8 ○
e) At a community centre or friendship centre?	1 ○	2 ○	7 ○	8 ○
f) At a public library?	1 ○	2 ○	7 ○	8 ○
g) At school, college or university?	1 ○	2 ○	7 ○	8 ○
h) At another location? *Specify*	1 ○	2 ○	7 ○	8 ○

FOR INFORMATION ONLY

F5. In the past 12 months, did you use the Internet?

1 ○ Yes ➔ *GO TO QUESTION F8*
2 ○ No
7 ○ Don't know
8 ○ Refused

F6. Are you interested in starting to use the Internet?

1 ○ Yes
2 ○ No
7 ○ Don't know } *GO TO NEXT SECTION*
8 ○ Refused

F7. What is the greatest barrier that keeps you from using the Internet?

01 ○ Cost
02 ○ Lack of access to computer or Internet
03 ○ Lack of skills or training
04 ○ Fear of technology
05 ○ No need
06 ○ Not enough time
07 ○ Disability
08 ○ Other – *Specify*
○
97 ○ Don't know
98 ○ Refused

INTERVIEWER: GO TO NEXT SECTION

F8. Where have you used the Internet in the past 12 months?
(INTERVIEWER: Read list. Mark Yes or No to each.)

	Yes	No	Don't know	Refused
a) At home?	1 ○	2 ○	7 ○	8 ○
b) At work?	1 ○	2 ○	7 ○	8 ○
c) At a friend's home?	1 ○	2 ○	7 ○	8 ○
d) At a relative's home?	1 ○	2 ○	7 ○	8 ○
e) At a community centre or friendship centre?	1 ○	2 ○	7 ○	8 ○
f) At a public library?	1 ○	2 ○	7 ○	8 ○
g) At school, college or university?	1 ○	2 ○	7 ○	8 ○
h) At another location? *Specify*	1 ○	2 ○	7 ○	8 ○

FOR INFORMATION ONLY

F9. In the last month, have you ever used the Internet …

	Yes	No	Don't know	Refused
a) for personal (non-business) use?	1	2	7	8
b) for E-mail/Hotmail?	1	2	7	8
c) for electronic banking?	1	2	7	8
d) to purchase goods and services?	1	2	7	8
e) to search for medical or health related information?	1	2	7	8
f) to search for government related information?	1	2	7	8
g) to search for employment?	1	2	7	8
h) for information about local community services or activities?	1	2	7	8
i) to play games?	1	2	7	8
j) to participate in chat groups?	1	2	7	8
k) to obtain and save music?	1	2	7	8
l) to listen to the radio?	1	2	7	8
m) to find sports related information?	1	2	7	8
n) for financial information?	1	2	7	8
o) to view the news?	1	2	7	8
p) for formal education, training or school work?	1	2	7	8
q) to search for information about education or training?	1	2	7	8

F10. In the last month, how often did you use the Internet? Was it…

1 **Every day?**
2 **Several times a week?**
3 **A few times a month?**
4 **Not in the last month?**
7 Don't know
8 Refused

END OF SECTION

FOR INFORMATION ONLY

Section G - Mobility

I would like to ask you some questions about where you live and moves that you may have made.

G1. Have you lived in this city, town or community all your life?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

G2. How many times, if any, have you moved in the past five years?
(INTERVIEWER: Include all moves from one residence to another, even moves within the same city, town or community.)

☐☐ *Times*
7 ○ Don't know
8 ○ Refused

INTERVIEWER:
IF RESPONDENT ANSWERED "YES" TO QUESTION G1 ➔ GO TO QUESTION G5
OTHERWISE ➔ GO TO QUESTION G3

G3. Why did you move to this city, town or community?
(INTERVIEWER: Mark all that apply. If respondent moved away from the city, town or community and then returned, collect reason for most recent return.)

01 ○ Family
02 ○ Work/to find a job
03 ○ School
04 ○ Better housing
05 ○ Housing less expensive
06 ○ More housing available
07 ○ Availability of services
08 ○ Better health care/health reasons
09 ○ Relocation/flood/government forced residents to move
10 ○ Other – *Specify*
97 ○ Don't know
98 ○ Refused

G4. How long ago did you move to this city, town or community? If you have moved away from this city, town or community and then returned, please refer to your most recent return.

1 ○ **Within the last year?**
2 ○ **Between 1 and 5 years?**
3 ○ **More than 5 years ago?**
7 ○ Don't know
8 ○ Refused

FOR INFORMATION ONLY

G5. The next two questions ask about temporary absences from your home. Include absences that lasted one month or more. Excluding moves and going back and forth between two homes, have you been temporarily away in the last twelve months…

	Yes	No	Don't know	Refused
a) Because of work?	1 ○	2 ○	7 ○	8 ○
b) To go to school?	1 ○	2 ○	7 ○	8 ○
c) Because of illness?	1 ○	2 ○	7 ○	8 ○
d) To be out on the land?	1 ○	2 ○	7 ○	8 ○
e) To go hunting, fishing, trapping or gathering wild plant food?	1 ○	2 ○	7 ○	8 ○
f) Because of family?	1 ○	2 ○	7 ○	8 ○
g) For some other reason? *Specify*	1 ○	2 ○	7 ○	8 ○

G6. How many times have you been temporarily away in the past twelve months? By "temporary absence" we mean absences that have lasted one month or more.

☐☐ *Times*

7 ○ Don't know

8 ○ Refused

END OF SECTION

FOR INFORMATION ONLY

Section H - HOUSING

INTERVIEWER: This section should be completed only one time for each household.

H1. Is your home rented or owned by you or another member of this household?

1 ○ **Rented by you or another member of this household** *(INTERVIEWER: Check "Rented" even if no cash rent is paid; also include rent-to-own.)*

2 ○ **Owned by you or another member of this household** *(INTERVIEWER: Check "Owned" even if it is still being paid for.)*

7 ○ Don't know

8 ○ Refused

GO TO QUESTION H7

H2. The next question is about subsidized housing, also known as "rent geared to income" housing. It can include social housing, public housing, government-assisted housing and non-profit housing.

Is your home subsidized?

1 ○ Yes → *GO TO QUESTION H5*

2 ○ No

7 ○ Don't know

8 ○ Refused

GO TO QUESTION H5

H3. Are you on a waiting list for subsidized housing?

1 ○ Yes

2 ○ No

7 ○ Don't know

8 ○ Refused

GO TO QUESTION H5

H4. How long have you been waiting for subsidized housing?

☐☐ *Months* **OR** ☐☐ *Years*

7 ○ Don't know

8 ○ Refused

H5. Would you like to own a home?

1 ○ Yes

2 ○ No

7 ○ Don't know

8 ○ Refused

FOR INFORMATION ONLY

H6. What are the reasons you do not own a home or do not want to own a home?
(INTERVIEWER: Do not read list. Mark all that apply.)

- 01 ○ The overall costs of home ownership would be too high
- 02 ○ Difficult to finance a home purchase (credit)
- 03 ○ Owning a home requires too much maintenance
- 04 ○ Respondent can't find a home in a desired neighbourhood (close to family, school, friends)
- 05 ○ No housing available in community
- 06 ○ Respondent lives rent-free
- 07 ○ Other – *Specify*
- ○
- 97 ○ Don't know
- 98 ○ Refused

H7. Is your home covered by insurance?

- 1 ○ Yes ➔ *GO TO QUESTION H9*
- 2 ○ No
- 7 ○ Don't know
- 8 ○ Refused

} *GO TO QUESTION H9*

H8. Why is your home not covered by insurance? Is it because…

- 1 ○ **Insurance is too expensive?**
- 2 ○ **You can't find an insurance company that will insure you?**
- 3 ○ **Some other reason?** *Specify*
- ○
- 7 ○ Don't know
- 8 ○ Refused

H9. Do you consider the water available to your home safe for drinking?

- 1 ○ Yes
- 2 ○ No
- 7 ○ Don't know
- 8 ○ Refused

H10. Are there times of the year that your water is contaminated?

- 1 ○ Yes
- 2 ○ No
- 7 ○ Don't know
- 8 ○ Refused

FOR INFORMATION ONLY

H11. Next, I'm going to ask you about various features of your home. Some might not seem appropriate to you but remember that living conditions vary across the country and that this survey is being conducted nation wide.

Does your home have...	Yes	No	Don't know	Refused
a) Cable or satellite television?	1	2	7	8
b) A smoke detector?	1	2	7	8
c) A carbon monoxide detector?	1	2	7	8
d) A home security (alarm) system?	1	2	7	8
e) A fire extinguisher?	1	2	7	8
f) An obstacle-free fire exit?	1	2	7	8
g) A telephone?	1	2	7	8
h) A stove for cooking?	1	2	7	8
i) Electricity?	1	2	7	8
j) A generator?	1	2	7	8
k) Cold running water?	1	2	7	8
l) Hot running water?	1	2	7	8
m) A flush toilet?	1	2	7	8
n) A septic tank or sewage system?	1	2	7	8

The next questions are about any special features that your home has or needs to assist anyone in your household with health conditions or health problems.

H12. Does your home now have... / **H13. Does your home need...**

	Yes	No	Don't know	Refused		Yes	No	Don't know	Refused
a) Modifications to doors or hallways?	1	2	7	8	If NO →	1	2	7	8
b) Ramps?	1	2	7	8	If NO →	1	2	7	8
c) Modifications to the bathroom?	1	2	7	8	If NO →	1	2	7	8
d) Modifications to the kitchen?	1	2	7	8	If NO →	1	2	7	8
e) Alerting devices?	1	2	7	8	If NO →	1	2	7	8
f) Any other special features?	1	2	7	8	If NO →	1	2	7	8

↓ *Specify* ↓ *Specify*

END OF PART 2

INTERVIEWER: If Métis supplements (PART 3 of this questionnaire) is not to be administered:

- *Thank the respondent and end the survey.*
- *Otherwise continue with PART 3 (Métis supplément).*

FOR INFORMATION ONLY

PART 3 Métis Supplement

This part of the survey applies to Métis people. It is being asked of all persons, 15 years of age and older, who identify as Métis and/or who have Métis ancestry.

This supplementary questionnaire was developed by Métis organizations in cooperation with Statistics Canada.

FOR INFORMATION ONLY

Section I - FAMILY BACKGROUND

I1. To begin with, a few questions about the community of your birth. By community of your birth we mean the community, village, town, city or settlement where your family lived at the time of your birth, not the location of the hospital where you were born. What is the name of the community where you were born?

Name of Community (Canada only) _____

Province or Territory (Canada Only) _____

1 ○ Outside of Canada

7 ○ Don't know

I2. Do you still reside in the community where you were born?

1 ○ Yes

2 ○ No → **I2a. How long has it been since you left the community where you were born?**

1 ○ Less then 1 year ago

2 ○ From 1 to 5 years ago

3 ○ From 6 to 9 years ago

4 ○ From 10 to 19 years ago

5 ○ 20 or more years ago

I3. Did you spend all or most of your childhood in a two-parent or single parent family?

1 ○ Two-parent

2 ○ Single-parent

3 ○ Other – *Specify* _____

8 ○ Refused

I4. Is your biological father now living?

1 ○ Yes

2 ○ No → **I4a. At what age did he die?**

___ Years old

7 ○ Don't know

I4b. What was the cause of death? *(INTERVIEWER: Do not read.)*

01 ○ Heart disease

02 ○ Stroke

03 ○ Cancer

04 ○ Pneumonia/influenza

05 ○ Accident

06 ○ Liver disease

07 ○ Diabetes

08 ○ Ulcers

09 ○ Kidney failure

10 ○ Alzheimer's disease

11 ○ Old age

12 ○ Other – *Specify* _____

97 ○ Don't know

FOR INFORMATION ONLY

I5. Is (or was) your father Aboriginal by ancestry, that is, Indian/First Nation, Métis or Inuk?

1 ○ Yes → **I5a. By ancestry, is/was he…** *(INTERVIEWER: Mark all that apply.)*

2 ○ No

7 ○ Don't know

1 ○ **Indian/First Nation**

2 ○ **Métis**

3 ○ **Inuk**

7 ○ Don't know

I6. Is your biological mother now living?

1 ○ Yes

2 ○ No → **I6a. At what age did she die?**

7 ○ Don't know

☐☐☐ Years old

7 ○ Don't know

I6b. What was the cause of death? *(INTERVIEWER: Do not read.)*

01 ○ Heart disease

02 ○ Stroke

03 ○ Cancer

04 ○ Pneumonia/influenza

05 ○ Accident

06 ○ Liver disease

07 ○ Diabetes

08 ○ Ulcers

09 ○ Kidney failure

10 ○ Alzheimer's disease

11 ○ Old age

12 ○ Other – *Specify*

☐

97 ○ Don't know

I7. Is (or was) your mother Aboriginal by ancestry, that is, Indian/First Nation, Métis or Inuk?

1 ○ Yes → **I7a. By ancestry, is/was she…** *(INTERVIEWER: Mark all that apply.)*

2 ○ No

7 ○ Don't know

1 ○ **Indian/First Nation**

2 ○ **Métis**

3 ○ **Inuk**

7 ○ Don't know

I8. Including yourself, how many children were there in your family? Include biological siblings, half-brother & sisters, step-brothers & sisters as well as adopted brothers & sisters.

1 ○ One → *GO TO QUESTION I10*

2 ○ More than one → *Number of Children* ☐☐

7 ○ Don't know → *GO TO QUESTION I10*

FOR INFORMATION ONLY

I9. Did any of your brothers or sisters die before they were two years old?

1 Yes
2 No
7 Don't know

I10. Was any Aboriginal language, such as Michif, Cree, Saulteaux or Dene ever spoken at home when you were a child?

1 Yes → **I10a. What Aboriginal language or languages were spoken at home when you were a child?** *(INTERVIEWER: Do not read.)*

01 Michif
02 Cree
03 Saulteaux/Ojibway/ Chippewa
04 Dene/Chipewyan/Sarcee/ Dogrib
05 Iroquois/Mohawk/Huron
06 Sioux/Dakota/Lakota
07 Mi'kmaq
08 Montagnais/Naskapi/Innu
09 Algonquin/Odawa
10 Other – *Specify*

97 Don't know
98 Refused

2 No
7 Don't know
8 Refused

I11. Was French ever spoken at home when you were a child?

1 Yes → **I11a. Was the French spoken at home mixed with an Aboriginal language such as Cree, Ojibway or Saulteaux?**

1 Yes
2 No
7 Don't know
8 Refused

2 No
7 Don't know
8 Refused

END OF SECTION

FOR INFORMATION ONLY

Section J - CHILD WELFARE

In the past, some Métis children were taken away from their parents. Some were adopted, others were placed in foster homes. The next series of questions seeks to find out how many Métis may have experienced this sort of separation in their childhood.

J1. As a child, were you ever removed or separated from your family, for any length of time, by child welfare agencies, church or government officials?

1 Yes
2 No
7 Don't know
8 Refused

J2. Were you ever placed in a foster home or in foster care at any time under the age of 18?

1 Yes → **J2a. Thinking of the foster home where you stayed the longest, were your foster parents Aboriginal by ancestry, that is, Indian/First Nation, Métis or Inuit?**

1 **Yes, both**
2 **Yes, Mother only**
3 **Yes, Father only**
4 **Neither parent**
7 Don't know
8 Refused

2 No
7 Don't know
8 Refused

J3. Were you ever a boarder in a residential school or boarding school at any time under the age of 18?

1 Yes
2 No
7 Don't know
8 Refused

J4. Were you ever officially adopted?

1 Yes
2 No
7 Don't know
8 Refused

FOR INFORMATION ONLY

The next series of questions are about your own home, your children and current family circumstances.

J5. Have you ever had any children of your own, either biological or adopted?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION J10

J6. How many children have you had in all, both biological and adopted?

__ # of Children

7 Don't know
8 Refused

J7. Were any of your children ever removed or separated from your care, for any length of time, by child welfare agencies, church or government officials?

1 Yes
2 No
7 Don't know
8 Refused

J8. Were any of your children ever placed in a foster home?

1 Yes
2 No
7 Don't know
8 Refused

J9. Were any of your children ever placed for adoption?

1 Yes
2 No
7 Don't know
8 Refused

J10. Have you ever raised other children, other than your own, such as foster children or a grandchild?

1 Yes
2 No
7 Don't know
8 Refused

J11. At the present time, how many children under 15 years of age normally reside in this household? Please include any children who normally live with you, whether or not they are your own.

__ # of Children

1 None
7 Don't know
8 Refused

GO TO QUESTION J14

FOR INFORMATION ONLY

J12. In the past 12 months, have difficulties in finding safe and affordable childcare ever kept you from…

	Yes	No	Don't know	Refused
a) Looking for work?	1	2	7	8
b) Taking a job?	1	2	7	8
c) Pursuing your education?	1	2	7	8
d) Taking a training course?	1	2	7	8

J13. How difficult is it to find safe and affordable childcare for children in this community? Would you say it is…

1 **Very difficult?**
2 **Somewhat difficult?**
3 **Not too difficult?**
4 **Not difficult at all?**
7 Don't know
8 Refused

J14. In the past 12 months, did you or anyone else in your household not have enough food to eat because of lack of money?

1 Yes
2 No
7 Don't know
8 Refused

J15. In the past 12 months, have you or anyone else in your household obtained food from a food bank or other charitable source?

1 Yes
2 No
7 Don't know
8 Refused

END OF SECTION

FOR INFORMATION ONLY

Section K - SOCIAL INTERACTION

K1. Are you currently living with a spouse/partner?

1 ○ Yes
2 ○ No
8 ○ Refused

GO TO QUESTION K3

K2. Is your spouse/partner Aboriginal by ancestry, that is, Indian/First Nation, Métis or Inuk?

1 ○ Yes → **K2a. By ancestry, is he/she…** *(INTERVIEWER: Mark all that apply.)*

- 1 ○ **Indian/First Nation?**
- 2 ○ **Métis?**
- 3 ○ **Inuk?**
- 7 ○ Don't know
- 8 ○ Refused

2 ○ No
7 ○ Don't know
8 ○ Refused

K3. Is any Aboriginal language, such as Michif, Cree, Saulteaux or Dene, ever spoken in your home?

1 ○ Yes → **K3a. What Aboriginal language or languages are spoken at home?** *(INTERVIEWER: Do not read list. Mark all that apply.)*

- 01 ○ Michif
- 02 ○ Cree
- 03 ○ Saulteaux/Ojibway/ Chippewa
- 04 ○ Dene/Chipewyan/Sarcee/ Dogrib
- 05 ○ Iroquois/Mohawk/Huron
- 06 ○ Sioux/Dakota/Lakota
- 07 ○ Mi'kmaq
- 08 ○ Montagnais/Naskapi/Innu
- 09 ○ Algonquin/Odawa
- 10 ○ Other – *Specify*
- 97 ○ Don't know
- 98 ○ Refused

2 ○ No
7 ○ Don't know
8 ○ Refused

K4. Do you own a sash, a traditional Métis shirt or other articles traditionally associated with Métis culture?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

FOR INFORMATION ONLY

K5. When is the last time you attended a Métis cultural event, festival, pilgrimage, or seen Métis artists perform?

1 **Less than 1 year ago**
2 **From 1 year to less than 2 years ago**
3 **From 2 years to less than 3 years ago**
4 **From 3 years to less than 5 years ago**
5 **5 or more years ago**
6 **Never**
7 Don't know
8 Refused

K6. Do you do any art or craftwork in traditional Métis or Aboriginal styles or motifs?

1 Yes → **K6a. What type of traditional art or craftwork do you do?** *(INTERVIEWER: Do not read list. Mark all that apply.)*

01 Leatherwork
02 Beadwork
03 Pottery
04 Tanning hides/ preparing furs
05 Weaving
06 Sewing
07 Carving in stone, wood or bone
08 Sculpting
09 Woodwork
10 Painting
11 Embroidery
12 Other – *Specify*

2 No
7 Don't know
8 Refused

K7. Are you a member of any voluntary organizations or associations such as school groups, church groups, community centres, ethnic associations or social, civic or fraternal clubs?

1 Yes → **K7a. How often did you participate in meetings or activities of these groups in the past 12 months? If you belong to many, just think of the one in which you are most active.** *(INTERVIEWER: Read list. Mark one only.)*

1 **At least once a week**
2 **At least once a month**
3 **At least 3 or 4 times a year**
4 **At least once a year**
5 **Not at all**
7 Don't know
8 Refused

2 No
7 Don't know
8 Refused

FOR INFORMATION ONLY

K8. Are you a member of any Métis cultural, social or political organizations or associations, such as a Métis dance group, Métis local or Métis Nation organization?

1 Yes → **K8a. How often did you participate in meetings or activities of these Métis groups in the past 12 months? If you belong to more than one group, just think of the one in which you are the most active.**
(INTERVIEWER: Read list. Mark one only.)

- 1 **At least once a week**
- 2 **At least once a month**
- 3 **At least 3 or 4 times a year**
- 4 **At least once a year**
- 5 **Not at all**
- 7 Don't know
- 8 Refused

2 No

7 Don't know

8 Refused

K9. How important is it, or would it be to you, for your children to learn a First Nation, Inuit or Métis language? Is it…

1 **very important?**
2 **fairly important?**
3 **not too important?**
4 **not important at all?**
7 Don't know
8 Refused

→ **K9a. Which language would that be?**

_____

7 Don't know
8 Refused

K10. How important is it, or would it be to you, for your children to learn about Métis culture and history? Is it…

1 **very important?**
2 **fairly important?**
3 **not too important?**
4 **not important at all?**
7 Don't know
8 Refused

END OF SECTION

FOR INFORMATION ONLY

Section L - HEALTH

Now I would like to ask you some questions about your personal health status, physical activities and experiences with the health care system.

L1. Do you have a regular medical doctor or family doctor?

1 ○ Yes
2 ○ No
7 ○ Don't know
8 ○ Refused

L2. When was the last time you saw a medical doctor or other health professional about your physical, emotional or mental health?

1 ○ Less than a year ago
2 ○ 1 year to less than 2 years ago
3 ○ 2 years to less than 3 years ago
4 ○ 3 years to less than 4 years ago
5 ○ 4 years to less than 5 years ago
6 ○ 5 or more years ago
7 ○ Never
8 ○ Don't know

GO TO QUESTION L7

L3. Where did you see the doctor or other health professional?

1 ○ Doctor's office
2 ○ Hospital emergency room
3 ○ Hospital outpatient clinic
4 ○ Hospital stay
5 ○ Walk-in clinic
6 ○ Appointment clinic
7 ○ Community health centre
8 ○ At home
9 ○ Other – *Specify*

L4. How would you rate the quality of the care you received from the doctor or other health professional at that time? Would you say it was…

1 ○ **excellent?**
2 ○ **good?**
3 ○ **fair?**
4 ○ **poor?**
7 ○ Don't know
8 ○ Refused

L5. How satisfied were you with <u>the way</u> physician care was provided? Were you…

1 ○ **very satisfied?**
2 ○ **somewhat satisfied?**
3 ○ **neither satisfied or dissatisfied?**
4 ○ **somewhat dissatisfied?**
5 ○ **very dissatisfied?**
7 ○ Don't know
8 ○ Refused

FOR INFORMATION ONLY

L6. Overall, how would you rate the availability of doctor's or physician care services in your community? Would you say it is …

1 **excellent?**
2 **good?**
3 **fair?**
4 **poor?**
7 Don't know
8 Refused

L7. Have you ever seen an Aboriginal Healer?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION L9

L8. When was the last time you saw an Aboriginal Healer?

1 Less than a year ago
2 1 year to less than 2 years ago
3 2 years to less than 3 years ago
4 3 years to less than 4 years ago
5 4 years to less than 5 years ago
6 5 or more years
7 Don't know
8 Refused

L9. Is there a history of diabetes in your family?

1 Yes
2 No
7 Don't know
8 Refused

L10. Have you ever been tested to check for diabetes by a medical doctor or other health professional?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION L12

L11. When was the last time you were tested for diabetes?

1 Less than a year ago
2 1 year to less than 2 years ago
3 2 years to less than 3 years ago
4 3 years to less than 4 years ago
5 4 years to less than 5 years ago
6 5 or more years ago
7 Don't know
8 Refused

FOR INFORMATION ONLY

L12. When was the last time you had your blood pressure taken?

1 Less than 6 months ago
2 6 months to less than a 1 year ago
3 1 year to less than 2 years ago
4 2 years to less than 5 years ago
5 5 or more years ago
6 Never
7 Don't know
8 Refused

INTERVIEWER: IF RESPONDENT IS MALE GO TO QUESTION L19.

L13. Have you ever had a PAP smear test?

1 Yes → **L14. When was the last time?**
2 No
7 Don't know
8 Refused

1 Less than 6 months ago
2 6 months to less than 1 year ago
3 1 year to less than 2 years ago
4 2 years to less than 5 years ago
5 5 or more years ago
7 Don't know
8 Refused

L15. Have you ever had a mammogram, that is, a breast x-ray?

1 Yes → **L16. When was the last time?**
2 No
7 Don't know
8 Refused

1 Less than 6 months ago
2 6 months to less than 1 year ago
3 1 year to less than 2 years ago
4 2 years to less than 5 years ago
5 5 or more years ago
7 Don't know
8 Refused

L17. Other than a mammogram, have you ever had your breasts examined for lumps, tumors or cysts, by a medical doctor or other health professional?

1 Yes → **L18. When was the last time?**
2 No
7 Don't know
8 Refused

1 Less than 6 months ago
2 6 months to less than 1 year ago
3 1 year to less than 2 years ago
4 2 years to less than 5 years ago
5 5 or more years ago
7 Don't know
8 Refused

FOR INFORMATION ONLY

L19. Is there a history of cancer in your family?

1 Yes →
2 No
7 Don't know
8 Refused

L20. What type or types of cancer has there been in your family?
(INTERVIEWER: Mark all that apply.)

01 Lung cancer
02 Breast cancer
03 Leukemia
04 Liver cancer
05 Brain tumor/cancer
06 Prostate cancer
07 Other – *Specify*
97 Don't know
98 Refused

INTERVIEWER: IF RESPONDENT IS FEMALE GO TO QUESTION L23.

L21. Have you ever had a prostate specific antigen test for prostate cancer, that is, a PSA blood test?

1 Yes →
2 No
7 Don't know
8 Refused

L22. When was the last time?

1 Less than 6 months ago
2 6 months to less than a year ago
3 1 year to less than 2 years ago
4 2 years to less than 5 years ago
5 5 or more years ago
7 Don't know
8 Refused

L23. People may also use alternative or complementary medicine. In the past 12 months, excluding an Aboriginal Healer, have you seen or talked to an alternative health care provider, such as an acupuncturist or homeopath about your physical, emotional or mental health?

1 Yes →
2 No
7 Don't know
8 Refused

L24. Who did you see or talk to?
(INTERVIEWER: Mark all that apply.)

1 Massage therapist
2 Acupuncturist
3 Herbalist
4 Homeopath or Naturopath
5 Spiritual/Religious healer
6 Other – *Specify*

FOR INFORMATION ONLY

L25. When was the last time that you went to a dentist?

01 Less than a year ago
02 1 year to less than 2 years ago
03 2 years to less than 3 years ago
04 3 years to less than 4 years ago
05 4 years to less than 5 years ago
06 5 or more years ago
07 Never
97 Don't know
98 Refused

INJURIES

L26. Now some questions about injuries you may have suffered in the last 12 months such as broken bones, bad cuts, sprains or poisoning.

In the last 12 months, have you ever been injured seriously enough to require hospitalization or emergency medical attention by a doctor, nurse or dentist?

1 Yes
2 No
7 Don't know } *GO TO QUESTION L31*
8 Refused

L27. For the most serious injury, what type of injury did you have?
(INTERVIEWER: Mark one only.)

01 Broken or fractured bones
02 Multiple injuries
03 Burn, scald, chemical burn
04 Dislocation
05 Sprain or strain
06 Cuts, puncture
07 Animal bite
08 Scrape, bruise, blister
09 Concussion or other brain injury
10 Poisoning
11 Injury to internal organs
12 Other – *Specify*

97 Don't know
98 Refused

FOR INFORMATION ONLY

L28. What happened, for example, was your injury the result of a fall, car accident, physical assault or something else?
(INTERVIEWER: Mark one only.)

- 01 Motor vehicle accident – passenger/driver
- 02 Motor vehicle accident – pedestrian
- 03 Motor vehicle accident – riding bicycle
- 04 Other bicycle accident
- 05 Snowmobile/Boat/All terrain vehicle (ATV) accident
- 06 Fall (excluding bicycle or sports)
- 07 Sport (not including bicycle)
- 08 Physical assault
- 09 Scalded by hot liquid or food
- 10 Food poisoning
- 11 Other accidental poisoning
- 12 Self-inflicted injury
- 13 Natural/environmental factors (animal bite, sting, frostbite)
- 14 Fire or flames or resulting fumes
- 15 Near drowning
- 16 Equipment hazard (e.g. saw, hammer, nail, jack, door slam)
- 17 Other – *Specify*
- 97 Don't know
- 98 Refused

L29. How would you rate the quality of the medical care you received at that time? Would you say it was …

- 1 **excellent?**
- 2 **good?**
- 3 **fair?**
- 4 **poor?**
- 7 Don't know
- 8 Refused

L30. How satisfied were you with the way medical care was provided? Were you …

- 1 **very satisfied?**
- 2 **somewhat satisfied?**
- 3 **neither satisfied or dissatisfied?**
- 4 **somewhat dissatisfied?**
- 5 **very dissatisfied?**
- 7 Don't know
- 8 Refused

L31. Overall, how would you rate the availability of emergency medical care services in your community? Would you say it is …

- 1 **excellent?**
- 2 **good?**
- 3 **fair?**
- 4 **poor?**
- 7 Don't know
- 8 Refused

FOR INFORMATION ONLY

L32. The next few questions are about health care use.

Have you spent one night or more as a patient in a hospital at any time in the past 5 years?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION L35

L33. Thinking of your most recent hospital stay, how would you rate the quality of the hospital care you received at that time? Would you say it was …

1 **excellent?**
2 **good?**
3 **fair?**
4 **poor?**
7 Don't know
8 Refused

L34. How satisfied were you with the way hospital care was provided? Were you …

1 **very satisfied?**
2 **somewhat satisfied?**
3 **neither satisfied nor dissatisfied?**
4 **somewhat dissatisfied?**
5 **very dissatisfied?**
7 Don't know
8 Refused

L35. Overall, how would you rate the availability of hospital care services in your community? Would you say it is …

1 **excellent?**
2 **good?**
3 **fair?**
4 **poor?**
7 Don't know
8 Refused

L36. In the past 12 months, how often have you had to acquire drugs or medications from a hospital, drug store or pharmacy with a prescription from a medical doctor or dentist? Was it …

1 **never?** → *GO TO QUESTION L38*
2 **one to two times?**
3 **from 3 to 5 times?**
4 **from 6 to 10 times?**
5 **more than 10 times?**

L37. In the past 12 months, have you ever had a prescription that you could not fill because of lack of money?

1 Yes
2 No
7 Don't know
8 Refused

FOR INFORMATION ONLY

L38. PHYSICAL ACTIVITIES

Now I'd like to ask you about some of your physical activities. To begin with, I'll be dealing with physical activities not related to work, that is, leisure time activities.

Have you done any of the following during the past 12 months?
(INTERVIEWER: Read list. Mark all that apply.)

	Yes	No	Don't know	Refused
a) Hunting or trapping	1	2	7	8
b) Fishing	1	2	7	8
c) Bicycle riding	1	2	7	8
d) Walk for exercise	1	2	7	8
e) Aerobics/Fitness class	1	2	7	8
f) Jogging or Running	1	2	7	8
g) Hiking	1	2	7	8
h) Skating	1	2	7	8
i) Rollerblading/Inline skating/Roller-skating	1	2	7	8
j) Snow-shoeing	1	2	7	8
k) Berry-picking or other food gathering	1	2	7	8
l) Competitive or group sports (e.g. hockey, basketball, baseball, lacrosse, volleyball)	1	2	7	8
m) Weights, exercise equipment	1	2	7	8
n) Golf	1	2	7	8
o) Bowling	1	2	7	8
p) Canoeing	1	2	7	8
q) Martial Arts	1	2	7	8
r) Snowboarding	1	2	7	8
s) Skiing	1	2	7	8
t) Swimming	1	2	7	8
u) Skateboarding	1	2	7	8
v) Curling	1	2	7	8
w) Other – *Specify*	1	2	7	8

L39. In a typical week, how <u>many times</u> do you do any physical activity outside of work that results in an increase in your heart rate and breathing?

☐☐ Number of times per week

L40. In a typical week, how <u>much time</u> do you do spend doing physical activities outside of work that result in an increase in your heart rate and breathing?

1 **None**
2 **1-2 hours**
3 **3-4 hours**
4 **5-6 hours**
5 **7-10 hours**
6 **11 or more hours**
7 Don't know
8 Refused

FOR INFORMATION ONLY

L41. Next, some questions about the amount of time you spent in the past 3 months on physical activity at work or while doing daily chores around the house, but not leisure time activity.

In a typical week in the past three months, how many hours did you usually spend walking to work or to school or while doing errands?

1 None
2 Less than 1 hour
3 From 1 to 5 hours
4 From 6 to 10 hours
5 From 11 to 20 hours
6 More than 20 hours

L42. Thinking back over the past 3 months, in a typical week, which of the following best describes your usual daily activities or work habits?

1 **Usually sit during the day and don't walk around very much**
2 **Stand or walk quite a lot during the day but don't have to carry or lift things very often**
3 **Usually lift or carry light loads, or have to climb stairs or hills often**
4 **Do heavy work or carry very heavy loads**

FOOD AND NUTRITION

L43. Last week, on how many days did you consume the following foods and beverages?

	Every day	5 or 6 days	3 or 4 days	1 or 2 days	Never	Don't know	Refused
a) **Milk**	1	2	3	4	5	7	8
b) **Cheese, yogurt and other milk products**	1	2	3	4	5	7	8
c) **Eggs**	1	2	3	4	5	7	8
d) **100% fruit juices (such as orange, grapefruit or tomato)**	1	2	3	4	5	7	8
e) **Fruit (Do not include juice)**	1	2	3	4	5	7	8
f) **Green salad**	1	2	3	4	5	7	8
g) **Potatoes (Do not include french fries or potato chips)**	1	2	3	4	5	7	8
h) **Other vegetables (Do not include potatoes or salad)**	1	2	3	4	5	7	8
i) **Bread**	1	2	3	4	5	7	8
j) **Cereal**	1	2	3	4	5	7	8
k) **Rice**	1	2	3	4	5	7	8
l) **Pasta**	1	2	3	4	5	7	8
m) **Processed meat (such as bologna, hot dogs, spam, klik)**	1	2	3	4	5	7	8
n) **Store bought meat (such as beef, pork, lamb, poultry)**	1	2	3	4	5	7	8
o) **Fish and seafood**	1	2	3	4	5	7	8

FOR INFORMATION ONLY

L 44. On average, how often do you eat or drink the following foods:

	Never / Hardly ever	Less than once a week	A few times a week	Once a day	Several times a day	Don't know	Refused
a) Coffee or Tea	1	2	3	4	5	7	8
b) Soft Drinks or Pop	1	2	3	4	5	7	8
c) Fast food, such as burgers, Pizza, hotdogs	1	2	3	4	5	7	8
d) Cakes, Pies, Cookies, Candy, Chocolate	1	2	3	4	5	7	8
e) French Fries, Potato Chips, Pretzels, Fry Bread	1	2	3	4	5	7	8
f) Added salt, such as from a Salt shaker	1	2	3	4	5	7	8
g) Added sugar, such as on Cereal, coffee or tea	1	2	3	4	5	7	8

L 45. In the past 12 months, how often have you eaten the following traditional foods?

	Not at all	A few times	Often	Don't know	Refused
a) Land based animals such as moose, caribou, bear, deer, buffalo etc..	1	2	3	7	8
b) Fresh water Fish	1	2	3	7	8
c) Salt water fish	1	2	3	7	8
d) Game birds	1	2	3	7	8
e) Small game such as rabbit, muskrat, etc.	1	2	3	7	8
f) Berries or other wild vegetation, such as wild rice	1	2	3	7	8
g) Bannock or Fry Bread	1	2	3	7	8

L 46. Do you think there is anything you could do to improve your physical health?

1 Yes → **L 47. What is the most important thing you could do to improve your physical health?**
(INTERVIEWER: Do not read. Mark one only.)

- 1 Increase exercise
- 2 Lose weight
- 3 Improve eating habits
- 4 Quit smoking
- 5 Take vitamins
- 6 Other – *Specify*

2 No

7 Don't know

8 Refused

L 48. Do you think you are overweight, underweight or that your weight is just about right?

1 Overweight

2 Underweight

3 Just about right

7 Don't know

8 Refused

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L 49. NON-PHYSICAL ACTIVITIES

Now, a few questions about your non-physical activities in your leisure time, that is, outside of school or work.

In a typical week in the past 3 months, how much time did you usually spend on a computer, including playing computer games and using the Internet or World Wide Web? Do not include time spent at work or at school.

- 01 None
- 02 Less than 1 hour
- 03 From 1 to 2 hours
- 04 From 3 to 5 hours
- 05 From 6 to 10 hours
- 06 From 11 to 14 hours
- 07 From 15 to 20 hours
- 08 More than 20 hours
- 97 Don't know
- 98 Refused

L 50. In a typical week in the past 3 months, how much time did you usually spend playing video games, such as XBOX, Nintendo, and Playstation?

- 01 None
- 02 Less than 1 hour
- 03 From 1 to 2 hours
- 04 From 3 to 5 hours
- 05 From 6 to 10 hours
- 06 From 11 to 14 hours
- 07 From 15 to 20 hours
- 08 More than 20 hours
- 97 Don't know
- 98 Refused

L 51. In a typical week in the past 3 months, how much time did you usually spend watching television?

- 01 None
- 02 Less than 1 hour
- 03 From 1 to 2 hours
- 04 From 3 to 5 hours
- 05 From 6 to 10 hours
- 06 From 11 to 14 hours
- 07 From 15 to 20 hours
- 08 More than 20 hours
- 97 Don't know
- 98 Refused

L 52. In a typical week in the past 3 months, how much time did you usually spend reading, not counting at work or school?

- 01 None
- 02 Less than 1 hour
- 03 From 1 to 2 hours
- 04 From 3 to 5 hours
- 05 From 6 to 10 hours
- 06 From 11 to 14 hours
- 07 From 15 to 20 hours
- 08 More than 20 hours
- 97 Don't know
- 98 Refused

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L53. Thinking over the past 3 months, how often have you bet or spent money on slot machines, card games, bingo or other games of chance at a casino? Was it…

01 **daily?**
02 **between 2 to 6 times a week?**
03 **about once a week?**
04 **between 2 or 3 times a month?**
05 **about once a month?**
06 **once or twice over the past three months?**
07 **never?**
97 Don't know
98 Refused

L54. Thinking over the past 3 months, how often have you bet or spent money on VLTs (Video Lottery Terminals) or other slot machines at a place other than a casino? Was it…

01 **daily?**
02 **between 2 to 6 times a week?**
03 **about once a week?**
04 **between 2 or 3 times a month?**
05 **about once a month?**
06 **once or twice over the past three months?**
07 **never?**
97 Don't know
98 Refused

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MENTAL, SPIRITUAL AND EMOTIONAL HEALTH

Health is defined not only as physical health but as mental or emotional health and well-being. The following questions concern your mental or emotional health and may raise sensitive issues. You can choose not to answer them.

First, I will read you a series of statements. Please tell me if you strongly agree, agree, neither agree or disagree, disagree or strongly disagree with these statements as I read them to you.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree	Don't know	Refused
L55. You feel you have a number of good qualities.	1	2	3	4	5	7	8
L56. You feel that you're a person of worth at least equal to others.	1	2	3	4	5	7	8
L57. You are able to do things as well as most other people.	1	2	3	4	5	7	8
L58. You take a positive attitude toward yourself.	1	2	3	4	5	7	8
L59. On the whole, you are satisfied with yourself.	1	2	3	4	5	7	8
L60. All in all, you are inclined to feel you're a failure.	1	2	3	4	5	7	8

Now, I'd like to turn to your emotional state over the past 12 months.

L61. During the past 12 months, was there ever a time when you felt sad, blue or depressed for 2 weeks or more in a row?

1 Yes
2 No
7 Don't know } *GO TO QUESTION L64*
8 Refused

L62. Please think of the 2-week period during the past 12 months when those feelings were the worst. How often did you feel this way during those two weeks? Was it…

1 **every day?**
2 **almost every day?**
3 **less often?**
7 Don't know
8 Refused

L63. What would you say was the main cause of your sadness or depression? Was it …
(INTERVIEWER: Read list. Mark one only.)

1 **family problems?**
2 **relationship with spouse, boyfriend/girlfriend?**
3 **medical condition?**
4 **personal finances?**
5 **employment or work situation?**
6 **other?**
7 Don't know
8 Refused

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L64. Have you ever seriously considered committing suicide or taking your own life?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION L67

L65. Have you ever attempted to commit suicide?

1 Yes
2 No
7 Don't know
8 Refused

GO TO QUESTION L67

L66. Has this occurred in the last 12 months?

1 Yes
2 No
7 Don't know
8 Refused

L67. In general, how would you rate your ability to handle unexpected and difficult problems, for example, a family or personal crisis? Would you say your ability is…

1 **excellent?**
2 **very good?**
3 **good?**
4 **fair?**
5 **poor?**
7 Don't know
8 Refused

L68. In general, how would you rate your ability to handle the day-to-day demands in your life, for example, handling work, family and volunteer responsibilities. Would you say your ability is…

1 **excellent?**
2 **very good?**
3 **good?**
4 **fair?**
5 **poor?**
7 Don't know
8 Refused

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The next questions are about spirituality.

L69. How religious or spiritual a person do you consider yourself to be? Would you say…

1 ○ **very?**
2 ○ **moderately?**
3 ○ **not very?**
4 ○ **not at all?**
8 ○ Refused

} *END INTERVIEW*

L70. How do you maintain your religious/spiritual well-being?
(INTERVIEWER: Read list. Mark all that apply.)

1 ○ **Attend church**
2 ○ **Pilgrimages/festivals**
3 ○ **Sweat lodges**
4 ○ **Prayer**
5 ○ **Meditation**
6 ○ **Talk with elders**
7 ○ Other – *Specify*

This concludes our questionaire.
Thank you for participating in the Aboriginal Peoples Survey.
We ensure all information will be kept strictly confidential.

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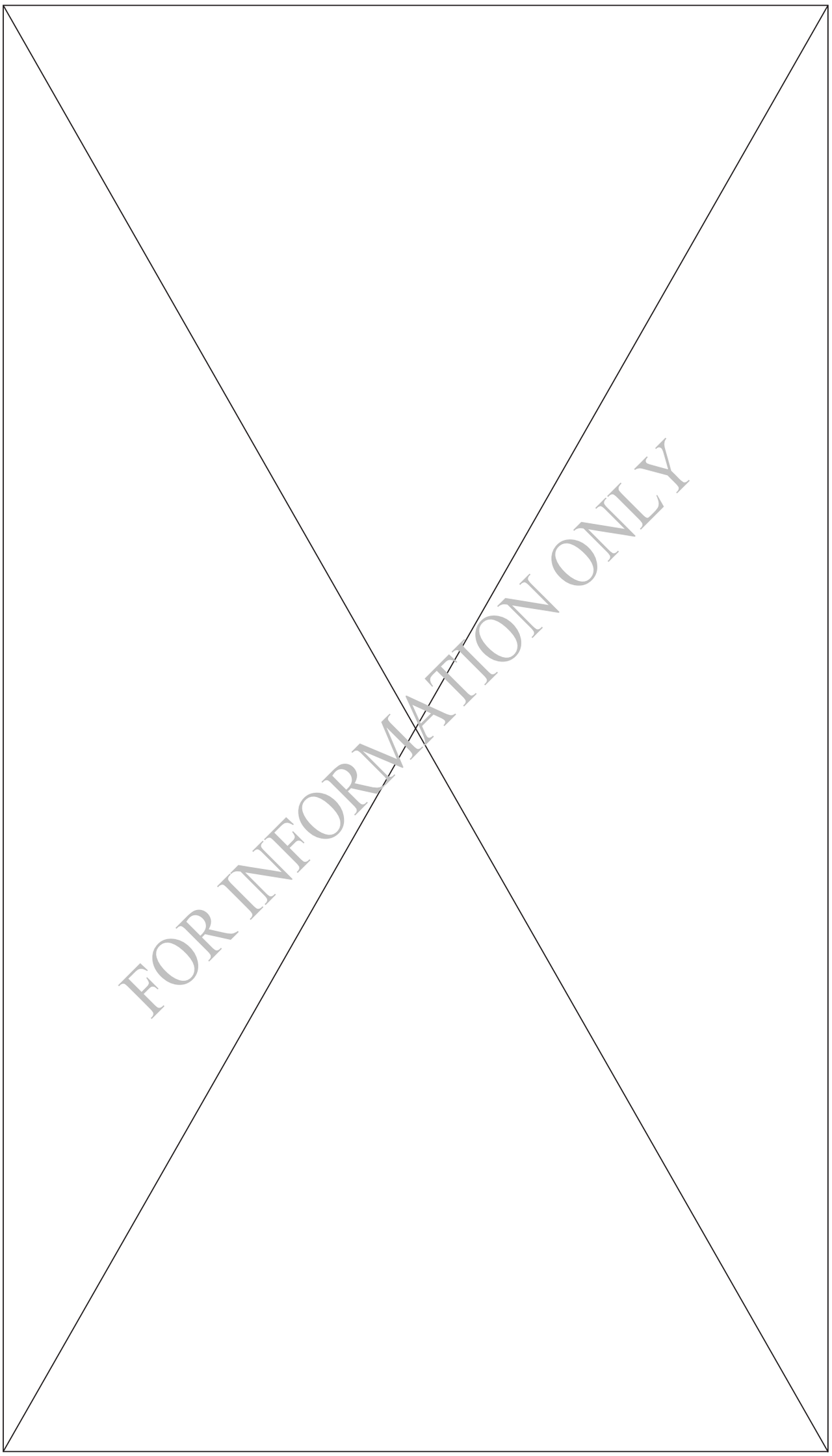

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Record of contact

Contact Number	Date		Time		Contact		Notes
	Day	Month	Started	Ended	Type	Outcome Code	
1			:	:			
2			:	:			
3			:	:			
4			:	:			
5			:	:			
6			:	:			
7			:	:			
8			:	:			
9			:	:			
10			:	:			
11			:	:			
12			:	:			
13			:	:			
14			:	:			
15			:	:			
16			:	:			
17			:	:			
18			:	:			
19			:	:			
20			:	:			
21			:	:			
22			:	:			
23			:	:			
24			:	:			
25			:	:			

Contact Type

T = Telephone
V = Visit

Outcome Codes

10 = No contact
11 = No one home/no answer
12 = Regular busy signal
13 = Answering machine or service – no message left
14 = Answering machine or service – message left
15 = Call screened/blocked/forwarded
20 = Absent for the duration of survey
21 = Interview requested in the other official language
22 = Language barrier (not official language)
24 = Soft appointment; call back required
25 = Hard appointment; call back required
29 = Request for personal interview
30 = Tracing required
36 = Unable to trace
37 = Obtained phone number/address
56 = Not eligible
64 = Deceased
70 = Complete
71 = Partial
76 = Not Aboriginal
80 = Refusal
81 = Part refusal
90 = Unusual/special circumstances

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Comments

SSHRC CRSH

350 Albert Street, P.O. Box 1610
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Ottawa ON K1P 6G4
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August 30, 2013

Mr. Christopher J. Ryan
33 Combermere Cres.
Waterloo ON N2L 5B2

FILE: CISS-RDC-647423

Dear Mr. Ryan:

Thank you for submitting an application to the CISS-Access to the RDC Program, a joint initiative between Statistics Canada, the Social Sciences and Humanities Research Council and the Canadian Institutes of Health Research. The RDC-Access Granting Committee has now completed the review of your project proposal and has approved it. Before you are granted access to the RDC to begin your project proposal you will need to complete the following steps (http://www.statcan.gc.ca/rdc-cdr/process-eng.htm):

1) Complete the security screening process
2) Sign the Oath of Office and Secrecy
3) Participate in an RDC Orientation session
4) Sign a Microdata Research Contract with Statistics Canada.

Your RDC analyst can be found at the centre listed on the following web page: http://www.statcan.gc.ca/rdc-cdr/network-reseau-eng.htm.

You have 1 year from the date of approval of your project proposal in order to initiate access to the RDC. If you are unable to commence your project proposal within the first 12 months after your project proposal has been approved for RDC access, please contact the RDC analyst to make special arrangements. If you have not contacted your RDC analyst within the first 12 months after your project proposal has been approved, you will need to re-apply to SSHRC in order to re-gain access to the RDC.

The reviews of the project proposal were based on SSHRC peer review procedures. Each project proposal was evaluated on the basis of four main criteria: scientific merit and viability of the proposed research; the viability of the methods to be applied given the data on which the analysis will be performed; a demonstrated need for access to detailed micro data; and, the expertise and ability of the researchers to carry out the work.

Enclosed is a copy of the evaluation results from the SSHRC peer review procedures for your information. If you need to discuss these results please contact your RDC analyst.

SSHRC CRSH

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Should you have further questions, please feel free to contact the officer responsible for the administration of the CISS-Access to the RDC Program, Mika Oehling, at (613) 992-4227 or by email at zresearchdata@sshrc.ca.

Sincerely,

Éric Bastien
Acting Director
Partnerships Portfolio

cc: Beverley Hunt, Research Data Centres Headquarters Operations

Encl.