

Gaining Insight: A Community-Based Approach to Understanding Physical Activity and  
Weight Gain in Pregnancy with First Nations and Métis Women

By

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DISSERTATION

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### Abstract

Weight-gain and physical inactivity in pregnancy have important implications for First Nations and Métis women, populations that experience a disproportionate burden of poor health outcomes in pregnancy. Utilizing a postcolonial feminist theoretical lens in conjunction with a social determinants of health framework and tenets of cultural safety, the purpose of my doctoral research, which was written in the publishable paper format, was to address four questions: a) Are First Nations women marginalized through current physical activity pregnancy guidelines?; b) How do pregnant First Nations and Métis women understand weight-gain and physical activity during pregnancy?; c) What are the factors that influence excessive weight-gain during pregnancy in urban First Nations and Métis women?; and d) How can obesity prevention programs with pregnant First Nations and Métis women who live in urban centres be reflective of and sensitive to their cultural practices? To answer these questions, I conducted community-based qualitative research, which included 15 semi-structured interviews with key informants who are health/service providers for Aboriginal women in Ottawa and focus groups and semi-structured interviews with 25 pregnant/postpartum First Nations and Métis women. I also conducted two focus groups with both health/service providers and pregnant/postpartum women to determine what type of resource would benefit pregnant, urban First Nations and Métis women. Ultimately, I used this information to develop this resource.

My research results revealed a complex interaction between the social determinants of health underlined by current manifestations of colonialism, which impact urban First Nations and Métis women's physical activity and weight-gain during pregnancy. These findings emphasize the need for culturally safe physical activity and weight-gain resources

for First Nations and Métis women during pregnancy. Ultimately, this study identified the importance of community consultation to develop culturally safe, community-driven, and useful health interventions for urban, pregnant First Nations and Métis women.

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There is a proverb “it take a village to raise a child” and I have learned it takes many communities to conduct community-based participatory research! My communities are my funders, my family, my sisters in academics, team Giles, my dissertation committee, the research participants and partners, and my loves.

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When your research examines the social determinants of health, you realize that before you are even born, your life path is formed. Interestingly Sir Michael Marmot has researched and discussed the “Glasgow effect,” where there are shocking health disparities within close proximity. Indeed, life expectancy is 54 years in the low-income community versus 82 years in the more affluent community that is a mere 12 kilometers away. I was born in Glasgow, rather close to the deprived area, and my parents immigrated to Canada when I was a young girl. As a first generation university student, I understand that education is both a right and a privilege! I am so grateful for the life I was born into and the sacrifices my parents made for their children. Mum and Dad, I am so lucky to have such fabulous and supportive parents. To my brothers Neil and Marc, although you will never read this, I am appreciative to have hilarious and intelligent brothers to lead me through the world! Thanks for always having my back and supporting me– no matter what!

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Mothering...

...is fundamental to all beings.

...involves nurturing children.

...extends far beyond biology and bodies.

...is the act and practice of love and passing on of knowledge.

...occurs across multiple times and spaces.

...is political.

...is life.

(National Collaborating Centre for Aboriginal Health, 2013, p. 2)

## Chapter 1: Introduction

My research aimed to address a gap in the academic literature concerning the factors that may influence excessive weight-gain and physical inactivity during pregnancy in urban First Nations and Métis women. The ultimate goal of my work was to understand how obesity prevention resources developed with pregnant First Nations and Métis women who live in urban centres can be reflective of and sensitive to their cultural practices.<sup>i</sup>

Aboriginal peoples experience disproportionately poorer health than other cultural and racial subgroups in Canada (Nestel, 2012). Aboriginal women in Canada are at greater risk of experiencing poorer physical environments, lower educational levels, lower socioeconomic status, scarcer employment opportunities, and a higher burden of poor health than their non-Aboriginal counterparts (Halseth, 2013). Moreover, Ravanera (2013) suggested that urban Aboriginal populations have greater needs than non-Aboriginal populations. Based on reports from the Canadian Community Health Survey (CCHS), off-reserve Aboriginal adults are more likely to be overweight (33.5%) or obese (24.7%) compared to their non-Aboriginal counterparts overweight (31.7%) and obese (14%) (Loppie-Reading & Wien, 2009; Tjepkema, 2002). The First Nations Regional Longitudinal Health Survey (2003) further reports that over 40% of First Nations women are considered obese. Halseth (2013) stated that prevalence rates of diabetes are of particular concern for First Nations women in their reproductive years. Métis women have fertility rates of 2.2 children and fertility rates for First Nations women are 2.9 children (Statistics Canada, 2011). Lowell and Miller (2010) reported that pregnant Aboriginal women are more likely to exceed recommended weight-gain guidelines than non-Aboriginal women. The authors also found that women with higher pre-pregnancy body mass index were more likely than normal weight women to gain more than recommended,

a finding that has been consistent in other pregnancy and weight-gain studies (Colman, McCargar, & Bell, 2012; Kowal, Kuk, & Tamin, 2012; Phelan, Phipps, Abrams, Darroch, Schaffner, & Wing, 2011). Since Aboriginal women experience high rates of pre-pregnancy overweight/obesity, high birth rates, and gain more than recommended during pregnancy, obesity prevention efforts are particularly warranted for First Nations and Métis women during pregnancy.

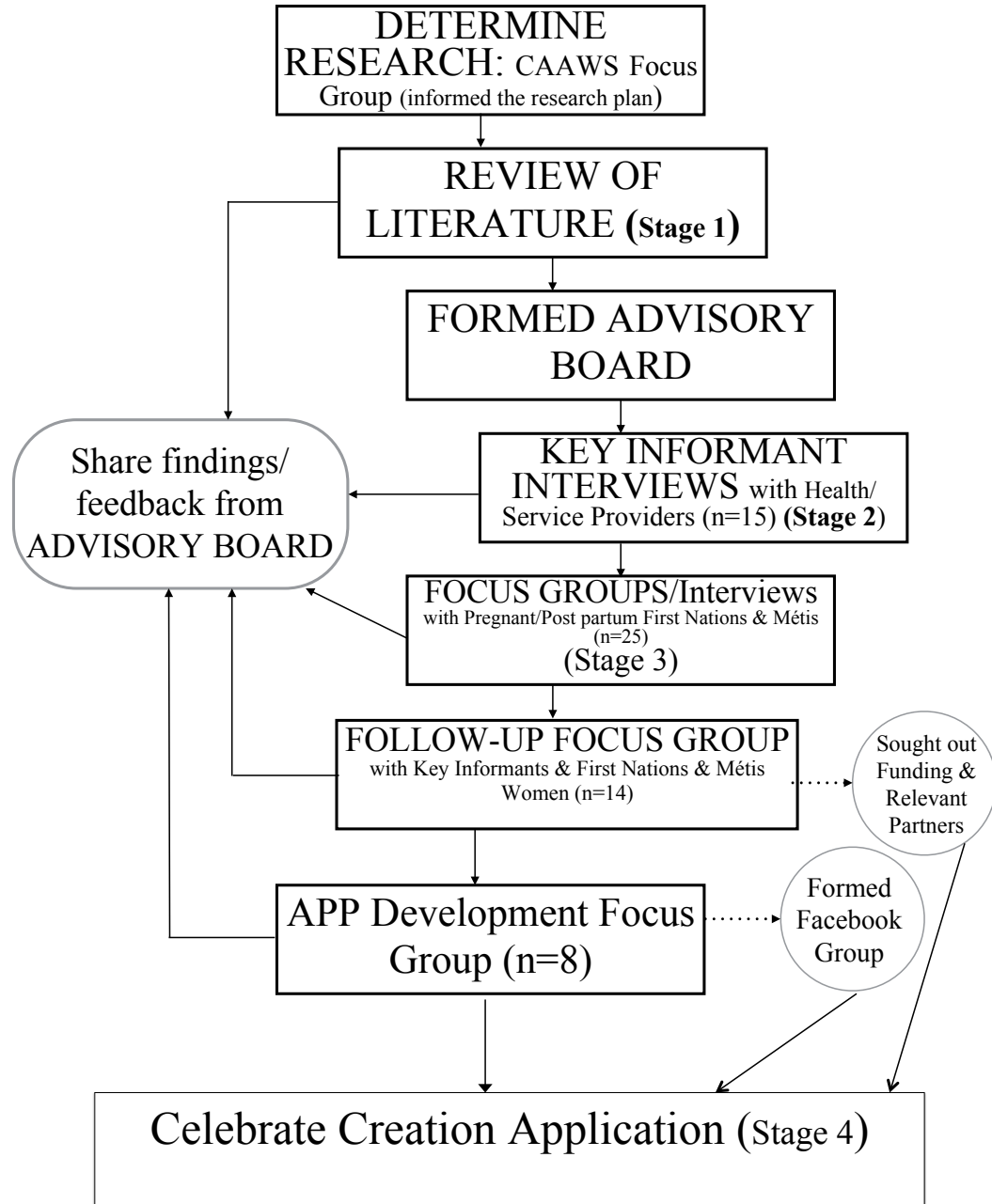
The National Aboriginal Health Organization (NAHO) (2006) reported that maternal health programs lack comprehensive programming that is culturally-relevant in addressing lifestyle issues for First Nations women (Browne, McDonald, & Elliott, 2009). Varcoe, Brown, Calam, Harvey, and Tallio (2013) have argued that efforts to improve birth outcomes and maternity care for Aboriginal women must “account for the social and historical production of health inequities” (p. 1). The Society of Obstetricians and Gynaecologists of Canada (SOGC) (2013) has identified pregnancy as an ideal time for service providers to “engage with and affirm the sexual and reproductive rights, values, and beliefs for First Nations, Inuit, and Métis women” (p. 31). Building on Varcoe et al.’s (2013) and the SOGC’s assertion, I contend that efforts to improve birth outcomes for First Nations and Métis women must resonate with women, in part by accounting for social and historical factors.

The aforementioned factors have driven my doctoral research, particularly as I attempt to understand the health inequities experienced by pregnant First Nations and Métis women, while respecting their rights, values, and beliefs. This research project, which I present in the publishable paper format, is guided by a postcolonial feminist theoretical lens, uses a social determinants of health framework and the tenets of cultural safety. The

purpose of this dissertation is to address four questions: a) Are First Nations women marginalized through current physical activity pregnancy guidelines?; b) How do pregnant First Nations and Métis women understand weight-gain and physical activity during pregnancy?; c) What are the factors that influence excessive weight-gain during pregnancy in urban, First Nations and Métis women?; and d) How can obesity prevention programs with pregnant First Nations and Métis women who live in urban centres be reflective of and sensitive to their cultural practices? I conducted my research in partnership with the Odawa Native Friendship Centre in Ottawa, Ontario, Canada. Given the topic of this research project, it is also important to acknowledge that the city of Ottawa is located on unceded Algonquin territory.

There were four overarching stages of my doctoral research, which are listed in Table 1. The initial stage of this research, which is presented in Chapter two, was a critical review of the literature to assess existing research in the area of First Nations women, pregnancy, and health. I then developed a framework that sought to adequately capture First Nation and Métis epistemologies, was community based and culturally safe, and examined the social determinants of health. I present this framework in Chapter three. In the next phase of my research, I conducted semi-structured interviews with key informants to assess the factors that influence weight-gain and physical inactivity from the providers' points of view, the results of which are presented in Chapter four. In the next stage, I conducted focus groups and semi-structured interviews with pregnant urban First Nations and Métis women to assess and gain insight into their understanding of the factors that influence weight-gain and physical activity during pregnancy.

Table 1: CBPR Process



The results from this work can be found in Chapter five. Building on the results from these data, the participants and I collaborated to create a culturally safe (Lynam & Young, 2000; Smye & Browne, 2002) pregnancy resource that represents urban First Nations and Métis women's unique cultural needs in Ottawa. I discuss this process, as well as my research outcomes, in Chapter six. The papers that comprise my doctoral research can inform other community-based interventions with First Nations and Métis women, as well as policies and programs that seek to understand and address Aboriginal social determinants of health.

This introductory chapter is organized into two main sections. First, I summarize the literature that pertains to areas of study relevant to the research: social determinants of health; weight-gain in pregnancy; physical inactivity and Aboriginal peoples; and physical activity in pregnancy. Second, I provide an overview of the epistemology and theoretical framework that guided my research, an overview of the methodology, methods, and analyses with which I engaged.

### **Literature Review**

There is a dearth of research concerning the factors that may influence excessive weight-gain and physical inactivity during pregnancy among urban First Nations and Métis women. In addition, there are considerable gaps in this body of research regarding the general health of all urban First Nation and Métis peoples (Browne, McDonald, & Elliott, 2009). This topic is of particular concern as Aboriginal women comprise the fastest growing segments of the Canadian population, and they are increasingly living in urban settings (SOGC, 2013). For this review of literature, I have made a concerted effort to focus on studies relevant to First Nations and Métis women – particularly urban dwelling

women. In some cases, however, this was an impossible task as there was no literature on which to draw. As a result, I have engaged with research that pertains more generally to Aboriginal women and other populations that are marginalized. This strategy is not without its limitations, but these measures were a necessary means through which to build the most comprehensive literature review possible. The following section will examine the social determinants of health as defined by the World Health Organization (WHO) and Public Health Agency of Canada (PHAC). I then address the importance of gender as a determinant of health. Finally, I provide an overview of the Aboriginal determinants of health as defined by the National Collaborating Centre for Aboriginal Health (NCCA)H (Loppie-Reading & Wien, 2009), with a particular focus on the effects of colonialism on First Nations and Métis women.

### **Social Determinants of Health**

The social determinants of health have been well articulated by leading health authorities across the globe such as the WHO and PHAC. Although there are a number of articulations of the social determinants of health (Loppie-Reading & Wien, 2009; Mikkonen & Raphael, 2009; Raphael, 2009; WHO, 2007; WHO, 2011), there is an overwhelming consensus that individual health is influenced by a number of factors. The WHO (2011) defined the social determinants of health as,

the conditions in which people are born, grow, live and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems. (p. 2)

According to PHAC (2015), the most important determinants of health among Canadians are income and social status; social support networks; education; employment and working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; gender; and culture. It is essential that stakeholders account for all of these factors as they address poor health outcomes, and health disparities, among Canadians.

### **Gender as a Determinant of Health**

Gender is a crucial determinant of health (PHAC, 2015; WHO, 2007), particularly for First Nations and Métis women. Gender inequality leads to greater health risks for women, which is caused by an imbalance of power relations between men and women (WHO, 2010). Phillips (2005) argued that in comparison to their male counterparts, women experience disproportionate barriers in access to essential resources, which negatively impacts their health outcomes. First Nations and Métis women face the “double whammy” of gender and race. Prior to colonization and imposed patriarchy, many First Nations communities were matrilineal and women held positions of power (Fiske, 1996). In particular, motherhood was viewed as an honourable time of creation and women were revered (Fiske, 1996). VanHerk, Smith, and Andrew (2011) have argued that presently, “Aboriginal females face discrimination for their race, gender, and class” (p. 58). The researchers further argued that Aboriginal women’s inequitable access to social determinants of health is evident in the “higher levels of extreme violence, poverty, unemployment, poor housing and nutrition” (VanHerk et al., 2011, p. 58). It is clear that Aboriginal women experience multiple layers of discrimination, particularly as the intersections between gender and Aboriginality have an enormous impact on their health,

as well as their broader lived experiences. In order to address the complex interconnections of factors that effect Aboriginal peoples in Canada, the NCCAH developed Aboriginal determinants of health.

### **Aboriginal Determinants of Health**

In 2005, the NCCAH was formed by the Government of Canada and funded through the PHAC to “support First Nations, Inuit and Métis public health renewal and health equity through knowledge translation and exchange” (NCCAH, n.d., para 1). NCCAH has taken the lead to contextualize the disproportionate burden of poor health outcomes for Aboriginal peoples. In partnership with researchers, governments, non-governmental organizations, and communities, NCCAH has invested in creating resources to identify and demonstrate the mechanisms by which the social determinants affect Aboriginal peoples’ health. NCCAH identified the determinants of Aboriginal health to inform NCCAH’s focus into three categories: 1) proximal, which comprises health behaviours, physical environments, employment and income, education, and food security; 2) intermediate, which encompasses, health care, education, community infrastructure, resources and capacities, environmental stewardship, and cultural continuity; and 3) distal, which includes colonialism, racism and social exclusion, and self-determination (Loppie-Reading & Wien, 2009).

NCCAH’s Aboriginal social determinants of health diverge from the WHO’s (2007) enunciation of the social determinants of health as the former devotes more attention to Aboriginal cultures and world views, such as the connection and dependency on the land, cultural continuity, and community infrastructure as important influences on health outcomes (Loppie-Reading & Wien, 2009). The NCCAH’s model is also

characterized by its focus on the impact of colonialism and its commitment to the re-establishment of self-determination in the Aboriginal determinants of health. The NCCAH model states that the determinant of Aboriginal health that underlies all of the other determinants is colonialism.

### **Colonialism**

Colonialism has been recognized as an independent determinant of Aboriginal health (Czyzewski, 2011; Loppie-Reading & Wien, 2009). Colonization, in the Canadian context, is the time period when European settlers established a colony in Canada, ascertaining power, taking land, accumulating resources, and imposing European ideologies (McLeod, 2007). Colonialism is the paternalistic political philosophy that influences the ways in which Aboriginal peoples in Canada were and are treated (Brascoupé & Waters, 2009). As a result, Aboriginal peoples experienced – and continue to experience - physical, emotional, spiritual, and mental trauma caused by colonizers and the implementation of colonization practices. However, sex and gender play an important role in this marginalization. Kubik, Bourassa, and Hampton (2009) argued that as a result of colonialism, Aboriginal women have been “doubly affected because of this racist ideology and by the pervasive sexism inherent in this ideology” (p. 19). This is manifested within Canadian law. Through the *Indian Act* (1876), a First Nations woman was forced to relinquish Indian status if she married a non-Status man (MacIntosh, 2008). This was a clear demonstration of gender discrimination as she and her children would not be considered Status Indians, but the inverse was not true. If a First Nations man married a non-First Nations woman, his wife and children would be entitled to Indian status (MacIntosh, 2008). Warry (2008) explained that such assimilatory policies ensured that

minority groups were “absorbed into a prevailing dominant culture” (p. 33). This particular portion of the *Indian Act* (1876) was repealed, resulting in the reinstatement of First Nations women’s rights to Indian status (Imai, 2015). However, Simeone (2013) argued that despite numerous modifications to the *Indian Act*, the *Act* remains largely unchanged and still governs many facets of First Nations peoples’ lives.

Colonial ideas and practices are still at work in Canada today. Recent examples of colonial government policies are the Indian Residential School System and the “Sixties Scoop”. Indian children were forcibly removed from their mothers, families, homes, and communities and placed in residential schools by child welfare agencies with the belief this was the best system of care for Aboriginal children (Bennett, Blackstock, & De La Ronde, 2005). It was a system to civilize and assimilate Indian people and to “kill the Indian in the child” (Truth and Reconciliation Commission of Canada, 2015, p. 130). The Sixties Scoop was the purposeful mass removal of Aboriginal children from their birth families and their re-location into non-Aboriginal families (Sinclair, 2007). The “Sixties Scoop” is now an infamous example of horrific acts committed against Aboriginal peoples. The Indian Residential School System and the Sixties Scoop are but two examples of the ways the Government of Canada has leveraged its power to advance the colonization of Aboriginal peoples. Colonization and its civilization and assimilatory policies had a particularly strong focus on Aboriginal women. The ongoing impacts are evident in the continued systematic oppression of Aboriginal women as evidenced by their poor health outcomes. One such area is the excessive weight gain for First Nations and Métis women during pregnancy (Brennand, Dannenbaum, & Willows, 2005).

### **Weight-gain in Pregnancy**

Weight-gain guidelines for pregnant women were created to provide guidance and ranges for healthy weight-gain during pregnancy. Health Canada adopted the Institute of Medicine (IOM) revised 2009 recommendations that weight gain in pregnancy be within a specific range based on pre-pregnancy body mass index (BMI) (Health Canada, 2010). Women categorized as underweight (BMI <18.5) are told to gain 28-40 lbs, normal weight women (BMI 18.5-24.9) should gain 25-35lbs; overweight women (BMI 25.0-29.9) should gain 15-25lbs; finally, obese women (BMI >30), should only gain 11-20 lbs. The IOM (2009) weight-gain recommendations, are based on data from existing studies, focused on five outcomes: birth weight (small or large for gestational age), cesarean section delivery, preterm birth, postpartum weight retention, and the longer term measure of child obesity (Viswanathan et al., 2008). Despite these guidelines, only one-third of Canadian women gain within the recommended range during pregnancy, and many women (48.7%) exceed these guidelines (Kowal et al., 2012).

Excessive weight-gain during pregnancy can have serious implications for both the woman and the fetus (Abrams, Altman, & Pickett, 2001). An increasing number of women are overweight prior to pregnancy, gain excessive weight during pregnancy, and do not lose the excess weight post-pregnancy (Reece, 2008). Herring, Rose, Skouteris, and Oken (2012) found that pregnancy is a significant risk factor in childbearing years for new or persistent obesity. These researchers also found that excessive gestational weight-gain is the strongest predictor of maternal overweight or obesity post-pregnancy. The aforementioned findings may have a significant impact on First Nations and Métis women.

### **Weight-gain in Pregnancy for First Nations and Métis Women**

Gaining too much weight in pregnancy is a contributing factor for gestational diabetes (Brennand et al., 2005), particularly for First Nations women who experience rates of gestational diabetes that are four to eight times higher than non-First Nations women (Canadian Diabetes Association, 2009). The First Nations Regional Health Survey (FNRHS) also revealed that one in eight First Nations women currently has gestational diabetes (NAHO, 2009). The significance of these findings must not be underestimated; gestational diabetes increases the risk of having a macrosomic baby, chances of birth trauma, and the need for interventions such as cesarean section delivery (Brennand et al., 2005). Moreover, Berger, Crane, and Farine (2002) found that 70% of First Nations women with primiparous gestational diabetes will develop type 2 diabetes later in life compared to only 40% of non-First Nations women. Unfortunately, gestational diabetes is quite common among First Nations women (NAHO, 2009) and Aboriginal ancestry alone has been identified as an independent risk factor for gestational diabetes (Dyck, Klomp, Tan, Turnell, & Boctor, 2002; Health Canada, 2001). Nevertheless, the focus on physical measures in pregnancy utilized in biomedical models may limit the understanding of the complexities of examining weight gain and physical inactivity in pregnancy in First Nations women.

Ultimately, biomedical models alone are not able to improve health outcomes for pregnant women. It is important to acknowledge that these models have certainly catalyzed important health advances and have improved health outcomes during pregnancy for both mother and babies (Bernier & Hanson, 2012). However, Bernier and Hanson (2012) pointed out that biomedical models are insufficient in capturing the complexities of weight-

gain, overweight, and obesity for pregnant mothers. In fact, they suggested that contextual issues, such as socioeconomic status, race, and ethnicity must be factored into understanding weight-gain, overweight, and obesity in pregnancy. As such, the examination of pregnancy outcomes requires the inclusion of intersecting factors to fully appreciate the complexity of weight-gain, overweight, and obesity during this life event.

There are a number of risk factors for excessive weight-gain during pregnancy. Lowell and Miller (2010) reported that women at greatest risk of exceeding recommended pregnancy weight-gain guidelines in Canada are young, primiparous, less educated, or Aboriginal women. Kowal et al. (2012) further confirmed that women were at greater risk of exceeding weight-gain recommendations if they were lower socio-economic status, overweight or obese prior to pregnancy, or single. There are a number of factors that contribute to weight gain in pregnancy. The issues are complex and influenced by a number of social determinants of health; nevertheless, modifiable behaviours, such as dietary intake and physical activity, directly influence pregnancy weight-gain (Herring et al., 2012).

### **Nutrition and Pregnancy**

Dietary intake in pregnancy can impact outcomes for the mother and fetus. The IOM (2005) energy intake recommendations, which Canada has adopted, stipulate that pregnant women should not consume additional calories during the first trimester, but should add 340 kcal per day in the second trimester, and 452 kcal per day in the third. Alavi, Haley, Chow, and McDonald (2013) advised that energy intake recommendations should be easily accessible to health care providers and women. Based on a Cochrane Collaboration review, Kramer and Kakuma (2007) concluded that nutritional advice can be

effective in improving pregnant women's energy consumption during pregnancy. Despite these recommendations, many women consume too many calories during pregnancy, which is an important contributor to obesity and gestational diabetes (Schol, Hediger, Schall, Ances, & Smith, 1995). Stuebe, Oken, and Gilman (2009) confirmed that energy intake was higher among women with excessive weight-gain in pregnancy. Adhering to the IOM guidelines is particularly important, as Stuebe et al. (2009) argued that a healthy diet and physical activity are associated with a reduction in excessive gestational weight-gain.

### **Nutrition and First Nations and Métis Peoples**

The diets of First Nations and Métis peoples are influenced by the social determinants of health discussed above. Willows (2005) asserted that data regarding the factors influencing the dietary habits of urban Aboriginal peoples are limited. However, researchers have revealed that poverty is a barrier to healthy eating for Aboriginal peoples (Kerpan, Humber, & Henry, 2015; Waldram, Herring, & Young, 2006). Loppie-Reading and Wien (2009) have also reported that Aboriginal peoples living off-reserve are three times more likely to live in a household that experiences food insecurity relative to non-Aboriginal populations. Based on the Aboriginal determinants of health, this conclusion is congruent with the contextual realities for Aboriginal peoples.

The lack of quality healthy food sources is a new issue for Aboriginal peoples. The diets of First Nation and Métis peoples have changed drastically since pre-European contact (Mos, Jack, Cullon, Montour, Alleyne, & Ross, 2004). In a study across nine First Nations communities in northwestern Ontario, respondents had high fat and sugar intake and low fibre intake compared to dietary recommendations (Ho et al., 2008). The researchers found that the top ten most frequently consumed foods were store bought rather

than prepared at home. Overall, the study demonstrated that the First Nations sample had a high prevalence of poor diet. In light of this trend, experts have advised First Nations and Métis populations to return to the consumption of traditional foods over supermarket foods for both nutritional and cultural reasons (Mos et al., 2004). Urban populations may have difficulty accessing traditional foods, which is a consequential limitation as traditional foods play an important role in the health outcomes of First Nations and Métis people, particularly during pregnancy.

### **First Nations and Métis Nutrition during Pregnancy**

Diet directly impacts First Nations and Métis women's weight-gain and health outcomes in pregnancy. In a study of pregnant Cree women, Gray-Donald et al. (2000) found that the women's diets were calorically dense, but provided minimal nutrients, had high cholesterol levels, and had low intake of fruit and vegetables. The women also had higher energy intake than recommended during pregnancy at 142kj/kg versus the recommended 105kj/kg. The researchers further found an association between energy intake and weight-gain, as women who consumed more calories gained more weight throughout their pregnancy. NAHO (2009) argued that this trend is due, in part, to the reality that First Nations women greatly rely on store bought foods that tend to be higher in fat and have less nutritional value than traditional foods (Gray-Donald et al., 2000). Mottola et al. (2010) recommended that nutrition education as well as physical activity during pregnancy could prevent excessive weight-gain and improve pregnancy outcomes. Moreover, social, specifically Aboriginal, determinants of health must be considered to improve pregnancy outcomes for First Nations and Métis women. In the next section, I will examine physical activity as it pertains more generally to Aboriginal peoples, and then

specifically examine physical activity in pregnancy, and physical activity among First Nations and Métis women.

### **Physical Activity and Aboriginal Peoples**

Physical inactivity has been identified as a cause of obesity in Aboriginal peoples (Katzmarzyk, 2008). The link between physical inactivity and obesity is stronger among Aboriginal peoples compared to non-Aboriginal (Katzmarzyk, 2008). Non-Aboriginal Canadians who are physically inactive are two times more likely to be obese compared to their physically active counterparts (Katzmarzyk, 2008). However, Katzmarzyk (2008) found that among the Aboriginal population, those who were physically inactive were three times more likely to be obese compared to physically active Aboriginal peoples. The FNRHS is a survey that was a First Nations created and led research agenda that surveyed First Nations peoples across Canada, examined physical activity and health outcomes across First Nations communities. The NCCAH (2013) reported on findings from the 2008-10 FNRHS and revealed that First Nations individuals who reported being active also reported “excellent health, being of normal weight, having fewer health conditions, consuming vegetables and fruit several times a day, consuming traditional foods, having good support, feeling in balance” (p. 2) and improved mental well-being and control over their lives compared to those who were less active. Such findings reiterate the importance of being physically active for First Nations and Métis peoples.

### **Physical Activity in Pregnancy**

Physical activity increases a person’s physical, mental, and social well-being (Warbuton, Nicol, & Bredin, 2006). Physical activity is an important component of overall health throughout the lifespan, including the time period of pregnancy and postpartum.

Canadian guidelines recommend regular physical activity (both aerobic and strength training exercises) for women with healthy pregnancies (Davies, Wolfe, Mottola, & MacKinnon, 2003). The guidelines also suggest that pregnant women should exercise 30 minutes or more on at least three days of the week (Davies et al., 2003).

Promotion of physical activity in general and throughout pregnancy is an important component in preventing obesity and gestational diabetes. A recent study in the USA based on the National Health and Nutrition Examination Survey found that young women have become less physically active. Over a period of 22 years, the proportion of young women who were not physically active rose drastically, from 19.1% to 51.7% (Ladabaum, Mannalithara, Myer, & Singh, 2014). These researchers emphasized the need to place greater importance on the role of physical inactivity in obesity development. Furthermore, a recent randomized controlled trial found that a light to moderate intensity physical activity can prevent excessive gestational weight-gain among pregnant women (Ruiz et al., 2013). Indeed, a meta-analysis clearly illustrated that women with higher levels of physical activity before or in early pregnancy have a significantly lower risk of developing gestational diabetes (Tobias, Zhang, van Dam, Bowers, & Hu, 2011). Other studies have also found that physical activity can prevent excessive weight-gain in pregnancy and has a protective effect on the development of gestational diabetes (Brunette et al., 2012; Petersen, 2012). Since First Nations ancestry alone is an independent risk factor for gestational diabetes (Dyck et al., 2002), exercise is particularly important for First Nations women. Experts recommend exercise as a primary prevention strategy in populations, such as First Nations women, that are deemed to be high risk for the development of gestational diabetes (Klomp, Dyck, & Sheppard, 2003). Furthermore, a Manitoba study that compared

First Nations and non-First Nations women revealed that pregnant First Nations women have inadequate levels of physical activity compared to their non-First Nations counterparts (Back et al., 2012). The authors concluded that physical activity levels should be improved among First Nations women.

Participation in physical activity is closely tied to women's social and economic status (Bryan & Walsh, 2004). Gaston and Vamos (2012) reported that limited numbers of pregnant women are meeting suggested physical activity guidelines. They found that women were less likely to meet recommended Canadian pregnancy physical activity guidelines if they were single, divorced, separated or widowed; a visible minority; or had less than a high school education. The aforementioned factors are extremely important to First Nations and Métis women as these women are more likely to be single mothers and have lower levels of education than non-First Nation or Métis women (Statistics Canada, 2011).

Low levels of physical activity during pregnancy, particularly for First Nations and Métis women, should be carefully considered within the context of the Aboriginal determinants of health rather than decontextualized neo-liberal strategies of individual choice and blame (Darroch & Giles, 2012). Contextualized understandings of physical inactivity will ensure that First Nations and Métis women's priorities and lived experiences are prioritized. Shen (2008) suggested that in order to encourage healthy prenatal weight-gain, knowledge translation for First Nations women is critical. Currently, there is a dearth of information pertaining to pregnant First Nations and Métis women's understandings of weight-gain and physical activity in pregnancy. In order to provide further context for my

research, in the next section I examine recent interventions and resources that have been created for First Nations and Métis women.

### **Recent Interventions with Pregnant First Nations and Métis Women**

There have been a limited number of interventions aimed at improving physical activity, and decreasing weight-gain in pregnancy, for First Nations and Métis women. Gray-Donald et al. (2000) developed and implemented an intervention focused on diet and physical activity to prevent gestational diabetes among Cree women in Quebec. Unfortunately, more women in the intervention group developed gestational diabetes than those in the control group. Despite the intervention's lack of success, one fruitful outcome was the community's recommendation for the inclusion of local women in the intervention's development. This would ensure that researchers and health care providers have an understanding of local and historical factors when working with First Nations communities (Tait-Neufeld, 2010; Thompson, Gifford, & Thorpe, 2000).

Another intervention specifically for Aboriginal women took place in Saskatoon, Canada from 1995-1997 (Klomp et al., 2003). Participants were encouraged to take part in weekly physical activity classes offered over a 2 year time period. Of the 69 participants, half of the women only attended one to three sessions and the other half attended four or more of the classes offered. Participants cited feeling tired, other priorities, difficulty getting out of the house, and lack of finances as the main reasons for lack of participation. The researchers suggested that it was challenging to create specific programs for urban Aboriginal women, but encouraged continued efforts to improve health outcomes among this population. Guided by the limited interventions targeted at First Nations and Métis

women, I will now turn my attention to an intervention with Aboriginal women in Australia.

A program developed in Australia for Aboriginal women entitled, “Strong Women, Strong Babies, Strong Culture,” was initiated in 1993 to address health disparities between Indigenous and non-Indigenous mothers (Lowell, Kildea, Liddle, Cox, & Paterson, 2014). The program aims to improve the health and well-being of mothers and babies, with a focus on nutrition and lifestyle counseling. Through qualitative evaluations of this program, the researchers found that the long-term success of the initiative, over 20 years, related to the “inclusion of Aboriginal knowledge and practice as a fundamental component of the program...respect for the legitimacy of Aboriginal knowledge and practice within health care” (Lowell et al., 2014, p. 1). These findings, although specific to Aboriginal women in Australia, support the necessity of including Aboriginal knowledge and practice in the development of Canadian intervention resources to increase the likelihood of them being used and the success of the intervention.

### **Recent Resources for Pregnant First Nations and Métis Women**

There are a number of pregnancy resources that have been developed for First Nations and Métis women. These resources focus on overall health and well-being with a limited focus on physical activity and diet during pregnancy. Reviewing each of the resources is beyond the scope of my doctoral dissertation, but below I will assess each of the five resources supported by Health Canada that address physical activity and diet during pregnancy for Aboriginal women (M. Larose, personal communication, November 20, 2013). The first resource was created by the Canada Prenatal Nutrition Program (CPNP) in Manitoba. It was comprised of a basic one-page handout encouraging physical

activity during pregnancy (CPNP, 2008). CPNP's second resource was a 17 page booklet that focused on stretching during pregnancy, and provided illustrated instructions on how to do these stretches (CPNP, n.d.). The Yellowknife Health and Social Service Authority (YHSSA, 2011) developed the third resource, which was comprised of a 20-minute "Active Pregnancy" video. This video is available in hard copy, as well as online. This resource was supported by Health Canada's First Nations and Inuit Health Branch (FNIHB) and provides information on the benefits of exercise, and it includes a number of strength and stretching exercises. Fourth, the regional CPNP in Saskatchewan created a "memories calendar", for use during pregnancy. This calendar has a limited section on physical activity in pregnancy that includes benefits of physical activity, which activities to choose, contraindications to exercise, and sample stretches and exercises (CPNP, n.d.). This resource has not yet been distributed in the Saskatchewan region. Finally, the last resource is a less comprehensive "memories calendar" developed by CPNP in the Atlantic Region (CPNP, n.d.). Although all of these resources provide some information in a culturally relevant manner, there is limited information on physical activity and diet.

Despite a number of efforts – such as those mentioned above - to address the disparities in pregnancy outcomes among First Nations and Métis women, there has been limited success in terms of uptake, participation, or improved health outcomes. It is evident that programs and interventions are more successful if First Nations and Métis women are involved in all stages of the projects. There have been limited community-based participatory research studies conducted with urban First Nations and Métis women to address weight gain and physical activity in pregnancy. Through my PhD research, I aimed to address the gaps in the academic literature in order to understand how culturally safe

interventions with this population can be developed through community-based participatory research. Below, I outline the epistemological framework that shaped my research.

### **Epistemology**

My doctoral research was guided by a social constructionist epistemology. The basic notion of constructionism is that reality is socially, culturally, and historically constructed (Neuman, 2000). Social constructionism stresses culture's role in shaping the way we view our world (Crotty, 1998). As a result, constructionism was the most appropriate epistemology for this research because of the complex nexus of factors that can influence how urban First Nations and Métis women understand weight-gain and physical activity during pregnancy. Understanding cultural experiences or constructions of weight-gain and pregnancy was essential for the creation of a culturally safe resource.

Social construction's stance that reality is socially, culturally, and historically constructed requires researchers to interrogate their own positionality. Feminist researchers, too, have stressed the need for researchers to critically examine the lens(es) through which they examine the world. McCorkel and Myers (2003) argued that postcolonial feminist researchers must acknowledge that variations in position and privilege can impact research, thus making it essential that researchers, like myself, examine our own positionality. Furthermore, hooks (1989) stressed that problems can arise when white women write about the experience of non-white women from an authoritative position. Within the parameters of my doctoral work, I did not attempt to write from an authoritative position, but rather from a reflective one, and remain cognizant that I am a member of the dominant culture. Certainly, I have likely been complicit in the

marginalization of women without recognizing it because the dominance of Euro-Canadian culture is so engrained in Euro-Canadian discourses. Nevertheless, there are a number of experiences that have informed the person I am today. I am from a working class family that emigrated from Scotland to Canada when I was a young child. I have led a relatively privileged life. My education and work experience (such as five years of work at Brown University as a research director on a National Institute of Health grant that focused on low-income pregnant women and weight-gain in the USA and my volunteerism in the community) and the lenses through which I view the world have revolved around attempts to familiarize myself with social inequities and to advocate and be actively involved in understanding and addressing them. Moreover, becoming pregnant and having a child in the middle of my PhD research and gaining “excessive” weight during my pregnancy shape my understandings. While I do not claim to fully understand the experiences of the women with whom I have worked and volunteered, I have learned from them and, as a result, have recognized the failure of (most) healthcare systems and research to respect and recognize the diversity of women in obesity- and pregnancy-related research.

Recognizing and respecting diversity are key factors in minimizing negative outcomes in research. Lambe and Swamp (2002) argued,

Part of our responsibility as non-Native people lies in learning about the past, learning about current issues, and supporting governmental candidates and policies that seek to address Native grievances, poverty, and other social problems. We have to acknowledge the legacy of colonization and the institutions that we inherited and work within them as best we can. (p. 427)

Creese and Frisby (2011) warned us that research has the potential to reinforce colonial relations of power, and my research could potentially reinforce this historical legacy. This reality, as well as my own position as a white, Euro-Canadian student/scholar, informed my choice of research methodologies. Ultimately, my doctoral work was guided by a methodology that decentres the researcher and creates a more balanced exchange between researcher and community members. In conducting this research, I went through the process of “unlearning one’s privilege” (Spivak, Landry, & MacLean, 1996). It is from this perspective that I journeyed through my postcolonial feminist-informed community-based participatory research.

### **Postcolonial Feminist Theory**

Postcolonial feminist theory, simultaneously focuses attention on, and radicalizes, gender within postcolonial theory (Lewis & Mills, 2003). Scholars and activists use this perspective to confront and disrupt Western ways of knowing and representing the voices of marginalized peoples (McEwan, 2001). It also challenges both the construction and the use of a “universal female experience” and responds to the need for a theoretical framework that acknowledges the historical positioning, class, race, and gender, but most importantly, the agency of non-Western women (Chilisa, 2012). Thus, postcolonial feminists make conscientious efforts to consider the varying difference of colonialism’s effects on women. A postcolonial feminist lens enables researchers to critically understand the current manifestations of colonialism and to decentre dominant culture (Browne, Smye, & Varcoe, 2005).

Despite being recognized as an influential postcolonial feminist theorist, Gayatri Spivak rejected the term postcolonialism, preferring neocolonialism, in order to stress that

colonization is a continued process and to address to current issues impacting marginalized women (Spivak et al., 1996). Spivak (1990) argued that Western feminists need to recognize that their knowledge is situated in cultural experiences and urged people to “unlearn privilege”. Spivak’s call to “unlearn one’s learning” recognizes that racism, classicism, and sexism are learned positions and that it is possible to reverse them (p. 4). She also coined the term *strategic essentialism*, which implies a temporary solidarity for social action through an essentialist position (Spivak, 1990). Dourish (2008) provided a nuanced definition of strategic essentialism as “the ways in which subordinate or marginalized social groups may temporarily put aside local differences in order to forge a sense of collective identity through which they band together in political movements” (p. 63). For Spivak, Western feminists tend to miss the “strategic” aspect, which can result in essentializing and potentially re-victimizing marginalized women. Further, Spivak’s (1988) work “Can the Subaltern Speak?” addressed the power imbalance that allows Western intellectuals to “speak for” the subaltern rather than letting marginalized women speak for themselves. Guided by Spivak’s analysis, one of my goals for this dissertation was to ensure that I did not homogenize First Nations and Métis women, that I respected the heterogeneity of the participants, and that I did not “speak” for the women.

Postcolonial feminist theory is a useful lens for examining health inequalities, specifically how health is influenced by social, political, and historical contexts, as well as by race, class, and gender (McEwan, 2001). Although this theoretical framework has had limited application in the areas of physical activity (with the exception of Hayhurst, 2014; Hayhurst, Giles, & Radforth, 2015), obesity, and pregnancy, it has gained traction in the field of nursing related to the care/treatment of Aboriginal women in Canada (Browne,

McDonald, & Elliott, 2009; Browne et al., 2005; Racine, 2003). An essential component of postcolonial feminism is the examination and uncovering of ongoing Eurocentric biases (Racine, 2003), in this case, in Canadian society. Such biases do not allow room for the validation of differing epistemologies and paradigms, such as Indigenous ways of knowing (Kovach, 2009). Eurocentric bias is a form of what Said (2001) called positional superiority. Postcolonial feminist thinkers have adopted Said's term in order to understand the various manners in which women are marginalized (McEwan, 2001).

Postcolonial feminists also contest the othering and marginalizing of women. Mohanty (1998) builds upon, Spivak's (1998) influential work, and argued that Western feminists produce others (and thus their own positional superiority) through the homogenization and universalization of Third World women's experiences. Mohanty (1998) stressed that context, race, class, gender, geography, and history must be considered when attempting to understand women's positions in life. In this light, labeling of women in the Third World as poor, uneducated, tradition-bound, and victimized, characterizes women as powerless and without agency. She further argued that "assumptions of privilege and ethnocentric universality, on the one hand, and inadequate self-consciousness about the effect of Western scholarship on the third world" (p. 335) can be damaging to non-Western women. Building on these arguments, and applying them to the Canadian context, Morrow, Hankivsky, and Varcoe (2007) argued, "from a postcolonial feminist theoretical stance, it becomes critical to avoid decontextualized discussions of health statistics. Instead statistics must be framed in terms of their intersecting social, historical, and economic determinants" (p. 21).

As a non-Aboriginal researcher engaged in community-based participatory research with First Nations and Métis women, postcolonial feminism was a useful theoretical lens to guide my research. This lens forced me to focus on the contextual issues that uniquely impact First Nations and Métis women's weight-gain and physical activity in pregnancy. The influence of postcolonial feminist theory on my research prompted me to reject the assumption that Eurocanadian conceptions of health and pregnancy are the only views worthy of serious academic attention. Instead, through my research I engaged with Indigenous knowledge concerning culture, health and associated practices in a thoughtful and respectful manner and viewed it as playing a crucial role in understanding and ameliorating obesity prevention in pregnant urban First Nations and Métis women.

Underlying most of the concepts of postcolonial feminism is the notion of power and the various ways in which power is used to oppress marginalized women. The reversal of colonial policies and practices and the elimination of stereotyping are relevant areas of investigation in health promotion that require an examination of power. In order to work towards the decolonization of health and healthcare, the effects of colonialism have to be examined and exposed, which is what I sought to accomplish through my doctoral research. Decolonization is the process of exposing and disassembling colonialist power, including all the institutional and cultural influences that have remained since colonialism (Ashcroft, Griffiths, & Tiffin, 2007). One way to challenge existing colonialism for First Nations and Métis women is to ensure that the care and resources provided to the community meet their social, historical, and cultural needs. Although cultural safety is not a tenet of postcolonial feminist theory, I argue that decolonization occurs when culturally safe resources are created, as the process and results challenge dominant colonial norms.

Ultimately, creating culturally safe resources is an intervention informed by postcolonial feminism.

### **Cultural Safety**

Cultural safety is a term that is gaining prominence among health organizations and professionals in Canada (Aboriginal Nurses Association of Canada, 2009; Baker & Giles, 2012; Baba, 2013; Browne, Varcoe, Smye, Reimer-Kirkham, Lynam & Wong, 2009). Irihapeti Ramsden, a Maori nurse in New Zealand, conceived of cultural safety in 1990, in response to Maori health disparities. Ramsden identified the need to analyze and address power relationships between health professional and the individuals they serve (Ramsden & Spoonley, 1994). Scholars and practitioners have expanded upon Ramsden's work. For instance, Gerlach (2007) explained that "in cultural safety terms 'culture' is defined in its broadest sense and 'safety' is defined in relation to the responsibility of health professionals to protect their clients from anything which may risk or endanger their health and well-being" (p. 2). Cultural safety moves beyond more commonly used terms like cultural awareness and cultural sensitivity to ensure the consideration of historical, economic, and social contexts that impact an individual's healthcare experience (Gerlach, 2007; NCCAH, 2013). Moreover, a culturally safe approach to healthcare requires the analysis of power imbalances, institutional discrimination, and colonial relationships as they apply to experiences in healthcare (NCCAH, 2013). As Brascoupé and Waters (2009) asserted, cultural safety is applicable to other areas of government and policy to improve delivery and services of health and social policies. Indeed, Giles and Darroch (2014) called for the use of cultural safety in the context of physical activity and health promotion as an

ethical and practical practice in order to provide equitable services and resources to Indigenous peoples.

### **Methodology**

In order to conduct relevant and meaningful research with First Nations and Métis women, I chose to use a community-based participatory research (CBPR) methodology. In this section, I will provide a definition of CBPR and then briefly discuss the strengths and weaknesses of such an approach. This will be followed by my rationale for the selection of this methodology for my dissertation. Finally, I will discuss the steps I took to engage in CBPR with the Odawa Native Friendship Centre throughout my entire dissertation process.

CBPR has gradually been gaining popularity as an approach to improve health and reduce health disparities in communities (Merzel & D'Afflitti, 2003; Minkler & Wallerstein, 2003). Importantly, this methodology has been increasingly viewed as an important strategy to work with marginalized populations (Israel, Eng, Schulz, & Parker, 2005), such as First Nations and Métis women. Israel et al. (1998) identified nine key tenets of community-based research: Recognize community as a unit of identity; build on strengths and resource inherent in the community; ensure collaborative and equitable involvement of all partners throughout the research process; integrate knowledge and intervention that mutually benefits all partners; encourage co-learning and empowerment addressing social inequalities; involves a cyclical and iterative process; examine health from positive and ecological perspectives; disseminate findings and knowledge gained equally to all partners; and ensure a long-term commitment by all involved. The Kellogg foundation (1992) defined CBPR as,

a collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings. CBPR begins with a research topic that is of importance to the community and has the aim of combining knowledge with action and achieving social change to improve health outcomes and eliminate health disparities. (para. 1)

Overall, CBPR is a collaborative methodology that aims to create more equitable research processes between researchers and community members, particularly compared to more conventional research approaches (Horowitz, Robinson, & Seifer, 2009).

### **Strengths**

CBPR has a number of strengths. For instance, Marshall and Rotimi (2001) situated CBPR as a methodology and as an, ethical framework because the focus of research within CBPR is *with*, in contrast to *on*, communities. CBPR is a particularly valuable methodology when working with marginalized communities. Teufel-Shone et al. (2006) identified that CBPR is especially valuable with Indigenous communities where: “(1) distrust of research is high, (2) reaction to culturally incompetent programs is apathy, and (3) the relegation of community members to non-decision making tasks within research-intervention projects has disempowered and exploited communities” (p. 1627). When CBPR researchers adhere to this methodology’s tenets, they can address the aforementioned factors by developing meaningful and trusting partnerships, ensuring the research and programs are developed with and relevant for the community members, and ensuring equal partnerships that empower all individuals involved. Empowering communities is perhaps the most important aspect of a CBPR approach.

Guta, Flicker, and Roche (2013) argued that the disappointing outcomes of public health interventions may be attributed to a “lack of meaningful community engagement in the planning, implementation, and evaluation of initiatives” (p. 432). A CBPR approach to research can aid in the process of engaging participants, improving research outcomes and supporting the production of useful and meaningful knowledge (Reid, Brief, & LeBrew, 2009). Community-based researchers work with, rather than for, marginalized peoples (Fals-Borda & Rahman, 1991); therefore, a CBPR approach to research works to ensure that the outcomes of the research are timely and relevant to local circumstances.

### **Weaknesses**

As with all methodologies, CBPR does have a number of weaknesses: CBPR is a lengthy process, it is incongruent with many academic systems, there is lack of consistency in conceptual models of CBPR, and existing priorities within the research community can hinder research process. One of the most cited issues with CBPR is that it can be a lengthy process (Israel et al., 1998; Israel et al., 2006). In academic settings, the duration of CBPR has been identified as particularly problematic because of duration of research and publication outputs (Teufel-Shone, 2011). Teufel-Shone (2011) further added that CBPR is incongruent within academic systems that reward independent scholarship and recognition from the academic community, which are not important aspects of CBPR. Roche, Guta, and Flicker (2010) critiqued the lack of consistency in the conceptual model of CBPR that can further challenge the integrity of the methodology. The authors further critiqued the lack of transparency of decision making processes for community-based research. Another critique of CBPR is that its principles, such as empowerment, are incorporated in the research process to varying extents depending on who is conducting the research

(McAllister et al., 2003). Therefore, the conceptual frameworks will vary for each research project and will be dependent on the engagement and expectations of the community members.

CBPR also has important limitations within the community within which the research is taking place. For example, community members who are involved in the project may have complex and competing demands for their time and energy (Guta et al., 2013). Horowitz, Robinson, and Seifer (2009) cautioned researchers that the movement of CBPR from the margins to the mainstream has resulted in unexpected consequences for both community members and research teams. As a result, researchers must “balance rigorous research with routine adoption of its conduct in ways that respectfully, productively and equally involve local partners” (p. 2633).

While recognizing the limitations of CBPR, its shortcomings are certainly outweighed by its strengths. Complementary methodological and theoretical frameworks can address some of the weaknesses in this research approach. I feel that a postcolonial feminist lens in conjunction with CBPR combines academic theorizing with activism, both of which are essential to examining and challenging colonial power relations. I explain below the process in which I engaged in CBPR with the Odawa Native Friendship Centre.

### **CBPR with the Odawa Native Friendship Centre**

Given my interest in physical activity and my research experience with pregnant women, I answered a call from the Canadian Association for the Advancement of Women and Sport and Physical Activity (CAAWS) to become a Mothers in Motion Master Trainer. The Mothers in Motion program encouraged mothers and their families to be more physically active through engagement with community members and organizations.

Through this volunteer position, I was able to learn about the local context of physical activity in Ottawa, particularly with the Aboriginal community. Through an initial partnership with CAAWS and the Odawa Native Friendship Centre, I facilitated a workshop for the Mothers in Motion program. The preliminary meetings with community members allowed me to work in collaboration with participants to determine the needs of mothers affiliated with the Odawa Native Friendship Centre. I was also able to secure a \$2000 grant to create relevant physical activity programming for Aboriginal mothers at Odawa Native Friendship Centre. Based on the findings from this CAAWS workshop, I recognized a need for further research around healthy pregnancies. Guided by the insights from community members through the Mothers in Motion program, I began to articulate a possible research project in the area of healthy and active pregnancies for First Nations and Métis women. The next step was to create a community advisory board for my research with key stakeholders in the Ottawa community. The advisory board was comprised of seven people who were either representatives from the Odawa Native Friendship Centre, Wabano Centre for Aboriginal Health, pregnant Aboriginal women and mothers, or Aboriginal health or service providers who work with pregnant women. Through the formation of a diverse community advisory board I was able to ensure representation of the community and community health care providers (see Appendix A). Throughout this research, I communicated with all members of the community advisory board to discuss every phase of this work. I also asked the community advisory board to provide feedback and advice at each stage of the research. I established and maintained communication through emails, phone calls, and in-person meetings. As a result, and in line with principles of CBPR, my research project shifted, changed, and was refined throughout to reflect

community members' needs.

Over the course of my doctoral research, I volunteered with the Odawa Native Friendship Centre for 3 years and established trusting relationships with community members. Based on recommendations from members of the advisory board, I elected to conduct semi-structured interviews with health/service providers and focus groups with pregnant and postpartum women. The advisory board members felt that pregnant and postpartum women might be more willing to open up in a group of their peers. After consultation with the community advisory board, I also elected to complete semi-structured interviews with women who were unable to attend the focus groups, but who wanted to share their experiences regarding the factors that influence weight-gain and physical inactivity in pregnancy. Below, I outline these methods.

### **Methods**

Methods, as described by Crotty (1998), are the techniques or procedures that are utilized to gather data related to one's specific research question or hypothesis. My methodology, CBPR, is rooted in the equal collaboration and involvement with the community through all stages of the research (Viswanathan et al., 2004). As a result, the methods selected for my research were informed by input from the community advisory board, and I ultimately used semi-structured interviews and focus groups to collect data for my dissertation.

#### **Semi-Structured Interviews**

Conducting interviews within the parameters of a project that is guided by postcolonial feminist theory was a complex undertaking, as interviews are "inextricably and unavoidably historically, politically, and contextually bound" (Fontana & Frey, 2005,

p. 695). Fontana and Frey's (2005) argument points to the necessity of understanding the power relations at work within interviews, as well as the reality that an exchange between two or more people can be a rather complex process. Despite this complexity, interviews were an ideal method. Indeed, Kamberelis and Dimitriadis (2005) have argued that a benefit of interviews as a method of data collection is that they provide the opportunity to capture an individual's perspective on relevant events or experiences. Qualitative interviews ensure that individuals use their own words to describe their experiences, thoughts, and opinions, which often results in descriptive data (Neuman & Robson, 2009).

There are three main types of interviews associated with qualitative research: structured interviews, unstructured interviews, and semi-structured interviews. Structured interviews occur when the researcher asks the same set of pre-determined questions to all interviewees (Fontana & Frey, 2005). Structured interview questions are specific: there is a limited range of response options and there is typically a coding scheme (Fontana & Frey, 2005). Unstructured interviews, on the other hand, begin with an open-ended question and provide a space for in-depth discussions (Hatch, 2002). Unstructured interviews attempt to "understand the complex behavior of members of society without imposing an a priori categorization that may limit the field of inquiry" (Fontana & Frey, 2005, p. 696). Unstructured interviews are not bound by the guidelines that are present within structured interviews (Fontana & Frey, 2005). Finally, semi-structured interviews strike a balance between structured and unstructured interviews. This type of interview uses pre-established open-ended questions, but is flexible, employs the use of probes, and allows for digression as directed by the interviewee (Hatch, 2002). Semi-structured interviews are designed to

delve deeply into the interviewee's understandings and perceptions of a particular event or experience (Hatch, 2002).

We decided that I should use semi-structured interviews because this form of interaction has the potential to elicit rich data through guided questions. There are numerous strengths for this interviewing method. In semi-structured interviews, the researcher has the ability to probe for further information by asking questions for both clarification and deeper insights. Moreover, semi-structured interviews create a more equitable environment than, for example, structured interviews, as the participant has the ability to take the interview in the direction s/he deems important (Hatch, 2002). There are, nevertheless, several of limitations to this interviewing approach. First, semi-structured interviews are time consuming, both in terms of the time it takes to conduct and transcribe them (Neuman & Robson, 2009). Second, they require the interviewer to have the ability to think on the spot and ask appropriate probing questions (Hatch, 2002). Despite these two weaknesses, in consultation with the community advisory board, I decided semi-structured interviews were the most appropriate interview approach for my research with health/service providers, as this method allowed for a systematic but flexible strategy to gain rich information from the interview participants.

I conducted semi-structured interviews using an interview guide that I created in conjunction with the community advisory board. The interview questions reflected the overall research goals and addressed questions raised by the advisory board (see Appendices B and C). My respondents were key informants who provide care for and/or support First Nation and Métis women in pregnancy. I conducted two preliminary interviews with First Nations community members and mothers to ensure that the interview

questions were clear and appropriate prior to conducting the remaining key informant interviews. The initial interviewees reported that the questions were fair and relevant. After I had developed my questions, the community advisory board identified the first five women I invited to be interviewed, a sample which included two participants from my preliminary interviews. After that, I used snowball sampling to connect with other health/service providers. Snowball sampling, a form of purposeful sampling, is a strategy used to locate additional interview participants in order to attain the goal sample size or until data saturation (Creswell, 2013). Despite reaching data saturation after eight interviews, I conducted seven more interviews to ensure that a diverse sample of professionals was represented. The interviews lasted between 45 – 90 minutes and were digitally recorded, with the exception of one interview where the participant did not want to be recorded. Once the semi-structured interview data were collected, I then conducted focus groups with pregnant and postpartum First Nations and Métis women.

### **Focus Groups**

The second method I utilized in my research was focus groups. Focus groups are a qualitative technique of collecting data that systematically explore specific questions with a group (Fontana & Frey, 2005). Krueger (1994) stated, “a focus group is a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive, nonthreatening environment” (p. 6). Focus groups are effective because they work with natural human tendencies for interaction and influence discussions (Krueger, 1994). The overall aim of any focus group is to foster self-disclosure amongst the participants (Krueger, 1994); in my case, the aim was to gain insight into factors that influence urban,

First Nations women's weight-gain and physical inactivity during pregnancy (See Appendices D and E).

Focus groups have several limitations. Facilitators of focus groups must be cognizant of the following drawbacks: group dynamics can cause discussions to go off track; the possibility of groupthink; and the dominance or passiveness of individuals in shaping the discussion (Fontana & Frey, 2005). These issues can be addressed through the use of a trained facilitator who directs the discussion to ensure relevant information is being shared, as well as ensure that each woman has a chance to contribute information. An additional limitation with focus groups is that the transcription of focus group sessions can be extremely time-consuming and difficult (Fontana & Frey, 2005). Alleviating the stress of transcription can be addressed by planning appropriately for the transcription process, which includes ensuring high quality recordings and allocating enough time for transcriptions to occur. Despite these weaknesses, focus groups have several strengths.

One of the strengths of focus groups is the ability to gather data from a number of people at once (Fontana & Frey, 2005). Focus groups also create a more organic environment in which participants may be more willing to share information (Onwuegbuzie, Dickinson, Leech, & Zoran, 2009). In order to conduct the focus group in a culturally safe manner, I hired a local First Nations woman facilitator who was familiar with focus groups to facilitate the group processes.

These methods worked in concert with CBPR and a postcolonial feminist theoretical framework to facilitate rich qualitative data collection as well as a more equitable research environment than those posed by non-CBPR methodologies. Through these methods, I was able to identify factors that urban First Nation and Métis women and

health/service providers described as influencing excessive weight-gain and physical activity in pregnancy.

### **Data Analysis**

There are a wide range of qualitative data analysis approaches for health research (Ebrahim & Bowling, 2005). As Green and Thorogood (2011) cautioned, it is essential in health research to be explicit about how qualitative data are analyzed. In the following section, I outline how I managed, organized, and analyzed my data, describe the two processes of data analysis that I engaged with, thematic analysis and discourse analysis, as well as the rationale, necessity, and benefits of both approaches.

### **Management and Organization of Data**

In order to facilitate data management and coding, I utilized NVivo10,<sup>TM</sup> a qualitative software data management program. I transcribed all of the focus groups and semi-structured interviews verbatim and returned the interviews to participants for review. Participants were given four weeks to review and, if necessary, revise the transcripts; only one participant made a few minor revisions. The data were then entered into NVivo10<sup>TM</sup>. Once all of the data were entered into NVivo10<sup>TM</sup>, I was able to analyze and interpret my findings through thematic analysis and discourse analysis.

### **Thematic Analysis**

Once I had transcribed my data, I conducted thematic analysis of my information. Thematic analysis provides an approach to identifying themes related directly to the data. Thematic analysis has been recognized as the most commonly used and accessible type of qualitative analysis in health research (Green & Thorogood, 2011). The aim of thematic analysis is to identify recurrent themes in the data or to simply categorize the data

(Boyatzis, 1998). Braun and Clarke (2006) provided a six phase process to guide the thematic analysis of data. The first phase requires the researcher to immerse herself in the data to ensure familiarity with the depth and breadth of the content. The second phase is to generate initial codes and collate the data into meaningful groups. Phase three involves searching for themes, which included further examining the codes and collating the data into potential themes. The fourth phase is to review and refine themes to determine if they accurately represent the data and address the research questions. The fifth phase requires that the researcher define and name themes and further develop his/her detailed analysis, or as Braun and Clarke (2006) summarized, to identify “the ‘essence’ of what each themes is about...and determining what aspect of the data each theme captures” (p. 22). The sixth and final phase of the analysis is writing up the findings to provide an analytic narrative that contextualizes the results in existing literature. Braun and Clarke (2014) stated that their form of thematic analysis is theoretically flexible. Despite this theoretical flexibility, they warned that the analysis must be “theoretically coherent and consistent” (p. 1).

Since thematic analysis offers a flexible approach with regard to theoretical and epistemological position (Braun & Clarke, 2006), I feel that my postcolonial feminist theoretical lens and my social constructionist epistemology would enhance this method. Engaging in thematic analysis allowed me to use a theoretically-driven form of analysis that I felt was reflective of the participants’ points of view. Unfortunately, such considerations did not improve my ability to include participants in the analysis. Despite requesting assistance in the analysis, my participants cited lack of time as a reason why they were unable to take part, which is understandable since the majority of them were mothers and/or pregnant. Thematic analysis was used as the analytic approach for paper

three and paper five. In addition to thematic analysis, however, I also engaged in critical discourse analysis to examine issues of power, which is reviewed in the next section.

### **Critical Discourse Analysis**

Critical discourse analysis is a method of analysis that aims to uncover and examine the ways in which individuals' experiences and actions are constructed (Phillips & Hardy, 2002). Critical discourse analysis is defined by van Dijk (1993) as "a type of discourse analytical research that primarily studies the way social power abuse, dominance, and inequality are enacted, reproduced and resisted by text and talk in the social and political context" (p. 1). The main purpose of this form of analysis is to "analyze, understand and combat inequality and injustice" (Van Dijk, 1993, p. 279). Fairclough and Wodak (1997) identified several main principles of critical discourse analysis: it addresses social problems, power relations are discursive, discourse constitutes society and culture, discourse does ideological work, discourse is historical, the link between text and society is mediated, discourse analysis is interpretative and explanatory, and discourse is a form of social action. As such, it is a strong fit for research conducted using a CBPR approach.

Ultimately, critical discourse analysis examines the underlying power relations within society. In order to examine issues of power within a social and historical context, I engaged with Willig's (2003) framework of critical discourse analysis. The first stage involves determining discursive constructions and identifying the ways in which the subject is referred to in text. The second stage involves locating discourses and identifying instances where the same discursive subject is constructed in different ways. The third phase examines how discourses work in relation to each other. The fourth step requires the research to identify the participants' position relative to other discursive construction. The

fifth phase requires questioning how the identified discursive constructions and subject positions establish or limit opportunities for action. The sixth and final stage aims to understand the subjective experiences shaped by the subjects' positions. I utilized critical discourse analysis in Chapter five of this dissertation.

As critical discourse analysts aim to systematically explore relationships of power shaped by social and political circumstances (Mogashoa, 2014), it is of great utility when examining the factors that influence weight-gain and physical activity for First Nations and Métis women in Canada.

### **Ethics**

This research was approved by the Research Ethics Board at the University of Ottawa (the study was first approved on 21 June, 2012 and the most recent renewal was received on 20 June, 2014, Reference No. H 02-12-05) (see Appendix F). This study adhered to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, specifically chapter nine: "Research Involving the First Nations, Inuit, and Métis peoples of Canada" (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2010).

### **Dissertation Format**

In the chapters that follow, I present four published papers and one manuscript under review. Chapter two illustrates how First Nations women may be marginalized through existing physical activity resources. Chapter three demonstrates that community-based participatory research can be strengthened when used with a postcolonial feminist theoretical approach in order to examine issues of power when conducting health research

with First Nations populations. Chapter four demonstrates that poverty, education, and colonialism are the main determinants of health impacting First Nations' and Métis women's weight-gain and physical activity during pregnancy, as identified by health/service providers. Chapter five demonstrates that there are complex discourses that influence weight-gain and physical activity in pregnancy; as such, there is a need for accessible and culturally safe resources for First Nations and Métis women. Finally, Chapter six provides an overview of the community-based process I engaged in to develop a culturally safe pregnancy resource for First Nations and Métis women.

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## Footnotes

<sup>i</sup>Throughout my dissertation, I have made an effort to focus on literature pertinent to urban dwelling First Nations and Métis women. In some cases, there was no available literature, so I had to engage with research that pertained more generally to Aboriginal women and other marginalized populations. Moreover, in chapters one through three I focus on First Nations women, though the later chapters include First Nations and Métis women. After completing the phases of research that informed these chapters, the community advisory board and participants advised me to include Métis women, particularly in the development of the app.

Chapter 2:

Weighing Expectations: A Post-Colonial Feminist Critique of Exercise Recommendations  
during Pregnancy

An earlier version of this paper was published as

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### Abstract

In this paper I engage with postcolonial feminist theory to examine current physical activity guidelines for pregnant women in Canada. Specifically, I examine the *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner, Wolfe, & Mottola, 2004), which is a companion booklet to the “Physical Activity Readiness Medical Examination” (PARmed-X for Pregnancy) (Wolfe & Mottola, 2002). I argue that these guidelines marginalize pregnant First Nations women in a number of ways: a lack of cultural consideration or representation of First Nations women; recommendations and interventions that rely on Euro-centric epistemologies and biomedical discourses; the use of dominant neo-liberal notions of personal responsibility for health; and physical and financial barriers to the guidelines. As physical activity is an important contributor to positive maternal health outcomes, and as First Nations women are at particular risk of excess weight gain during pregnancy, I argue that existing guidelines need to be reflective of First Nations women’s needs. Further, the creation of culturally safe physical activity resources for pregnant First Nations women may enable First Nations women to avoid excess weight-gain during pregnancy and thus improve maternal health.

In this paper, I offer a postcolonial feminist critique of existing physical activity guidelines for pregnant women in Canada. Using a postcolonial feminist approach, I elucidate the ways in which First Nations<sup>i</sup> women are marginalized through a lack of cultural consideration or representation of First Nations women; recommendations and interventions that rely on Euro-centric epistemologies and biomedical discourses; the use of dominant neo-liberal notions of personal responsibility for health; and physical and financial barriers to the guidelines. Postcolonial feminist theory is a productive approach to the issues of physical activity promotion and obesity prevention among pregnant First Nations women: it addresses historical positioning, class, race, gender, and the overall impact these forces have on women. In an article entitled “Don’t just tell us we’re fat,” Lavalee (2011) called for the use of theoretical frameworks that are more holistic and inclusive of Aboriginal ways of knowing and account for cultural differences. Postcolonial feminist theory provides such a lens and is thus a productive way to examine various effects of colonial discourses upon women’s ways of knowing and power differentials (Ashcroft, Griffiths, & Tiffin, 2007; Williams & Chrisman, 1994; Young, 2001), which are of particular importance in examining First Nations women’s health (Browne & Smye, 2002).

Physical activity guidelines for pregnant women have been developed and refined over the past three decades. These guidelines, written in response to baby-boomers’ demands for information on the safety of exercise during pregnancy, were first published in 1982 (Wolfe & Davies, 2003). The first publication produced by Fitness Canada (1982) on this topic was called *Fitness and Pregnancy*; it addressed a number of ways to improve pregnant women’s lifestyle habits and had a focus on physical activity of light intensity.

The specific aerobic exercise guidelines recommended that women exercise three to five days per week for a minimum of 15 minutes per session and that they should stay in the lower end of conventional pulse rate target zones (Wolfe & Davies, 2003). These guidelines, which have only been revised twice in the past 29 years, were based on limited scientific data and were therefore conservative with recommendations of duration and intensity. Their current iteration can be found in a booklet entitled *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004). This booklet, a companion to the “Physical Activity Readiness Medical Examination” (PARmed-X for Pregnancy) (Wolfe & Mottola, 2002), is a questionnaire that was created in 1996 and revised in 2002, which is used by physicians and midwives to provide medical clearance for women to participate in prenatal exercise programs (Wolfe & Davies, 2003). Both of these documents were co-published by Health Canada and the Canadian Society for Exercise Physiology (CSEP). In this paper, I will focus on these two documents, *Active Living During Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) and the “PARmed-X for Pregnancy” (Wolfe & Mottola, 2002), because they have been published and promoted with the support of the Canadian government and are thus framed as “the” guidelines for all women in Canada. Through the use of postcolonial feminist theory, I will demonstrate the ways in which First Nations women are marginalized in these health publications, specifically through an examination of three postcolonial concepts: positional superiority, Othering, and stereotyping.

### **Colonialism and First Nations**

Colonialism is defined as “the control of governing influence of a nation over a dependent country, territory, or people or the system or policy by which a nation maintains or advocates such control or influence” (Czyzewski, 2011, p. 1). The Indian Act (1876) had detrimental effects on all First Nations peoples, but it has uniquely disadvantaged First Nations women through colonial discourses and exercises of power (Forsyth, 2005; Government of Canada, 1996; Horn-Miller, 2005). First Nations women experienced systematic marginalization by the federal government as the legal right to be classified as Status Indian was (until the mid-1980s) applied directly only to males; women could only obtain status through their Status Indian father or husband (MacIntosh, 2008). Indeed, as Musa Dube, a postcolonial theorist, stated, “Women in colonized spaces not only suffer the yoke of colonial oppression, but also endure the burden of two patriarchal systems imposed on them” (Chilisa, 2012, p. 259).

Colonialism has been identified as a driver of First Nations peoples’ poor health (Loppie-Reading & Wien, 2009). The legacy of colonialism is apparent in First Nations peoples’ poor health in almost every health measure - so much so that several scholars have argued that colonialism itself is a social determinant of health (Czyzewski, 2011; Loppie-Reading & Wien, 2009). The double burden of patriarchal and colonial systems that First Nations women endure has led to a myriad of challenges for this population, including physical inactivity, obesity, and other negative health outcomes (Loppie-Reading & Wien, 2009). Through a critical examination of existing health guidelines and recommendations, I identify the current manifestation of colonialism and the continued marginalization of First Nations populations.

### **Obesity and Physical Inactivity in Pregnancy**

The benefits of physical activity include increased physical, mental, and social well-being (Warbuton, et al., 2006); thus, physical activity is an important component of overall health throughout pregnancy and postpartum. Katzmarzyk (2008) concluded that Aboriginal<sup>ii</sup> rates of physical activity are lower than those of non-Aboriginal peoples and noted physical inactivity as an important cause of obesity for Aboriginal peoples. Research has revealed that pregnant Aboriginal women often exceed recommended weight-gain guidelines (Lowell & Miller, 2010) and exercise less than non-Aboriginal peoples during pregnancy. The fact that First Nations women have among the highest birth rates in Canada (Statistics Canada, 2005) further compounds the need to critically examine this topic. Indeed, First Nations ancestry alone is an independent risk factor for gestational diabetes (Dyck et al., 2002). Excessive weight gain during pregnancy increases the risk of negative maternal/fetal health outcomes, including gestational hypertension, diabetes, pre-eclampsia, cesarean delivery, macrosomia, and long-term obesity in the child (Phelan et al., 2010). Exercise is recommended as an essential primary prevention strategy in populations that are at high risk for diabetes, such as First Nations women (Klomp, Dyck, & Sheppard, 2003).

Obesity affects women's reproductive health and poses health risks to both mother and fetus. Not only does obesity affect biomedical health, it can cause psychological stress for the pregnant woman (Kumar, 2003). The psychological impacts of obesity are seldom explored; however, issues have been raised about patient dignity, embarrassment, and feelings of victimization when health care practitioners address the issue with pregnant women (Heslehurst et al., 2007). Culturally safe obesity prevention strategies must be

implemented to meet the unique needs of pregnant First Nations women. Cultural safety includes components of cultural awareness, sensitivity, and competence, to transform both understanding and relationships in the health setting (Aboriginal Nurses Association of Canada, 2009). To create culturally safe interventions, it is essential to understand the complex nexus of factors that influence First Nations women's health.

### **Aboriginal Determinants of Health**

In response to the unique experiences and disproportionate burden of poor health outcomes for Aboriginal peoples, researchers, governments, non-governmental organizations, and communities have invested resources in identifying determinants of health specific to Aboriginal peoples. Loppie-Reading and Wien (2009), reporting for the National Collaborating Centre for Aboriginal Health, identified the determinants of Aboriginal health that inform its efforts: socio-political factors, holistic perspective of health, life course, health behaviours, physical environments, employment and income, education, food insecurity, health care systems, educational systems, community infrastructure, environmental stewardship, cultural continuity, colonialism, racism and social exclusion, and self-determination.

The Aboriginal social determinants of health, which address the concerns of both rural and urban Aboriginal residents, differ from the World Health Organization's articulations of the social determinants of health because they further consider Indigenous cultures and world views, such as the connection and dependency on the land (Loppie-Reading & Wien, 2009), as influencing health outcomes. Another notable difference between the two articulations of the social determinants of health is focus on the effects of colonialism and work to re-establish self-determination in the Aboriginal determinants of

health. Theoretical frameworks that account for specific determinants of Aboriginal peoples' health are thus essential to understanding, analyzing, and creating appropriate interventions.

### **Postcolonial Feminist Theory**

Postcolonial feminist theorists seek to “expose, describe, and change ideological and social structures that maintain inequities between Aboriginal and non-Aboriginal populations” (Smith et al., 2006, p. 31). Postcolonial theory addresses historical positioning, class, race, gender, and the overall impact these forces have on women. In addressing the complex nexus of power generated through these forces, one can better understand their effects on First Nations women's health outcomes. The examination of unequal relations of power is central to postcolonial feminist analysis; such differentials in power can affect First Nations women at both micro and macro levels. In terms of micro (individual level) and macro (societal level) influences in health and physical activity, the framing of the problem occurs mainly at the micro level. Individualizing the problem and thus blaming individuals for poor health ignores greater systemic issues and neglects the need to address the problems in current physical activity recommendations in healthcare.

A key component of postcolonial feminism is an examination and exposure of existing systemic issues. Said's (2001) notion of “positional superiority” is helpful in understanding the ways in which First Nations peoples are marginalized by those in positions of power. A blatant example of positional superiority in Canada was residential schooling, where Euro-Canadian knowledge and culture were forced on Indigenous peoples (Smith, 1999). Although a less obvious example, positional superiority can be seen in the writing of “expert” documents (such as physical activity guidelines for pregnancy)

that fail to recognize that non-Euro-Canadians' beliefs and practices often differ from biomedical understandings of physical activity and health. Failing to recognize non-Euro-Canadian ways of knowing not only indicates positional superiority, but also creates cultural "Others."

Spivak (1990) called for a theory of "agency and strategy" that ultimately recognizes the agency of the Other and strategizes change. The concept of Othering is defined as constructing non-Western peoples as Other or, as Spivak (1990) called them, "cultural others." In order to decentre Western ways of knowing, there is a need to understand the experiences of Others. First Nations women in Canada experienced and continue to endure Othering at the hands of the colonizer. There is evidence to suggest that inequitable health conditions are based in the Othering of First Nations peoples that began with colonization (Smith, Edwards, Martens, Varcoe & Davies, 2006). The systematic destruction of First Nations peoples through constructed inferiority not only marginalized First Nations peoples, but also destroyed entire cultures, the effects of which are still evident across the globe. Spivak (1990) stated, "to refuse to represent a cultural Other is salving your conscience and allowing you not to do any homework" (pp. 62-63), which is a clear call for academics to expose the complex nexus of factors that contribute to the marginalization of colonized women.

Building on the concept of Othering, stereotyping is a term that is helpful to understand the process of Othering. A stereotype "is an oversimplified and usually value-laden view of the attitudes, behaviours and expectations of a group or individual" (Edgar & Sedgwick, 2004, p. 380). Stereotypes may be "deeply embedded in sexist, racist or otherwise prejudiced cultures, [and] are typically highly resistant to change" (Edgar &

Sedgwick, 2004, p. 381). For purposes of this paper, stereotypes are the generalized views of the colonized by the colonizer. In many cases, First Nations women are reduced to stereotypes, which causes misrepresentation and further marginalization. Browne, Smye, and Varcoe (2005) warned of stereotyping's far reaching and marginalizing effects. Negative stereotypes towards Aboriginal peoples exist in Canadian society, the authors stated, "it is not uncommon for non-Aboriginal Canadians to equate the culture of Aboriginal peoples with the culture of poverty, substance abuse, and dependency" (Browne et al., 2005). I would add physical inactivity and obesity to the list.

The reversal of colonial policies and practices and the elimination of stereotyping is a relevant area of investigation in health promotion. Decolonization is the process of exposing and disassembling colonialist power, including all the institutional and cultural influences that have remained since colonialism (Ashcroft et al., 2007). In order for decolonization to occur, the effects of colonialism have to be examined and exposed, which I do in the following analysis.

### **A Post-Colonial Feminist Critique of Exercise Recommendations during Pregnancy**

First Nations women in Canada are disproportionately represented in statistics of poor health outcomes, including pregnancy (Loppie-Reading & Wien, 2009). Given that First Nations women are consistently among the highest risk populations for poor pregnancy outcomes, I believe it is crucial to have First Nations women represented in the *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004). The purpose of this examination is not to discredit the significant work the authors have done or to question the scientific data that the physical activity guidelines are based on, but rather to point out the socio-cultural factors that are

neglected when producing health promotion documents for Canadian women. The current physical activity guidelines for women in Canada neglect First Nations women through a lack of cultural consideration or representation of First Nations women, a reliance on Eurocentric epistemologies and biomedical discourses, and through limited access to the guidelines.

### **Lack of Cultural Consideration or Representation of First Nations Women**

Obesity researchers have acknowledged that social and cultural connections with obesity are seldom considered in the literature (Burns et al., 2009). In a systematic review, Bernier and Hanson (2012) acknowledged that there is no

discussion on the relationship between social factors, overweight and obesity, and maternal health outcomes, leaving us with very little information about adverse health outcomes among pregnant women from diverse racial and ethnic, socio-economic, and educational backgrounds. (p. 14)

Certainly, current understandings of obesity and pregnancy are dominated by Eurocentric perspectives and bias that can further marginalize First Nations women. The recommendations and interventions for the prevention of excessive weight gain during pregnancy also reflect a Eurocentric bias. As was noted by Kirkham et al. (2007), postcolonial feminists are not critical of current science, “rather we raise questions about *how* science is practiced by those who conduct and fund research to perpetuate racialized, classed, and gendered approaches to study design” (p. 31). The authors further cautioned against the separation of science “from the humanities and social sciences in our knowledge generation and application” (Kirkham et al., 2007, p. 31). The *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et

al., 2004) and the *PARmed-X for Pregnancy* (Wolfe & Mottola, 2002) resources would thus benefit from input from scholars in the humanities and social sciences to help to make these resources culturally safe for First Nations women.

In addition to examining what *is* included in pregnancy exercise guidelines, it is crucial to examine what *is not* printed or represented in them. *Active Living During Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) is a 34-page document with 37 photos of the same white woman throughout the publication. The cover of this resource has a silhouette of a thin, healthy white woman with a pregnant belly and three additional photos of the same white women stretching. The absence of all things non-white and non- thin in this publication ignores the diversity of women. If women cannot recognize themselves in resources, they may be less likely to adopt the recommended practices.

### **Reliance on Euro-centric Epistemologies and Biomedical Discourses**

Discussions of pregnancy are rooted in medical models constructed from Eurocentric, biomedical discourses (Smith-Morris, 2005). Biomedical discourses discount the importance of social and cultural factors that affect women's experiences of pregnancy. Dominant biomedical understandings of both pregnancy and obesity draw heavily on medicalized discourses; however, they are also influenced by external social and political forces. The written guidelines are a prescription for health that ignore the broader social and economic conditions that affect some First Nations women's physical activity during pregnancy. First Nations women have a deeply-rooted understanding of pregnancy as a natural process, in sharp contrast to Eurocentric medicalized and technology-focused practices (Lawford, 2011). An example of this is the strict focus of the *Active Living during*

*Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) on Eurocentric definitions of health that do not consider First Nations' notions of health. Health care professionals rely on various tools and technologies throughout pregnancy. These tools and technologies are not neutral; in fact, the Body Mass Index, the tool most commonly used to determine overweight and obesity, itself is a Eurocentric determinant of obesity and neglects ethnic variances in body types (Humphreys, 2010). Additionally, the use of ultrasounds, and the measuring (weighing mothers and fetus), defining (terminology such as high/low risk pregnancy), categorizing (percentiles of baby growth) of the mother and baby, separate the woman from the process of pregnancy.

The exclusion of the woman from the medical interpretations of pregnancy leads to the marginalization of women and takes away the sense of agency some women feel during pregnancy (Kukla & Wayne, 2011). Childbirth itself has become a controlled procedure that is proscribed by medical professionals. The National Aboriginal Health Organization (2006) explained, "culture and traditions evoke a more spiritual experience than the Western medical model of maternity care" (p. 48). This contrasts with Eurocentric, patriarchal practices that are engrained in health institutions and guidelines; unfortunately, these practices are so dominant that we often fail to recognize them. The production of "Western" knowledge has positional superiority; as a result, the West is portrayed as superior to the "Other" (Shahjahan, 2005). This positional superiority may frame information in a way that is either unacceptable or incomprehensible to First Nations women, who often subscribe to non-Eurocentric epistemologies.

### **Use of Dominant Neo-Liberal Notions of Personal Responsibility for Health**

Positional superiority is evident in the absence of First Nations' ways of knowing in *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004). Physical inactivity is often understood through neo-liberal, Eurocentric discourses of personal responsibility for health (Herrick, 2009). Personal responsibility for health can be interpreted in numerous ways; typically it assigns blame to the individual for poor health rather than considering larger societal factors that contribute and influence poor health (Minkler, 1999). The Institute of Medicine (IOM) (2009) published updated weight gain in pregnancy guidelines that have been adopted in Canada. The IOM guidelines recommend specific weight gain per trimester based on weight status (underweight, normal weight, overweight, or obese), which necessitates further personal responsibility of weight control in pregnancy. Postcolonial perspectives on physical activity are essential to understanding and challenging concepts of health expressed through this discourse of personal responsibility, instead of stigmatizing the individual and ignoring the ways in which individuals are affected by a variety of external determinants of health.

Such neo-liberal approaches to the recommendations and current weight gain in pregnancy interventions frame exercise as a responsible choice, laying personal blame on women who fail to adopt Euro-Canadian interventions. Blaming women, rather than addressing the social determinants of First Nations' health, reinforces the dominant culture's expectations of compliance to a physical activity regime. This is further demonstrated in the following statement from Wolfe and Mottola (2002): "In addition to prudent medical care, participation in appropriate types, intensities and amounts of exercise

is recommended to increase the likelihood of a beneficial pregnancy outcome” (p. 1). The focus on personal responsibility, by indirectly blaming the individual for poor health, fails to account for the ways in which colonization has contributed First Nations women’s poor health (Alfred, 2009; McCaslin & Boyer, 2009). Lupton (1999) argued that pregnant women are burdened not only with the responsibility of maintaining their own health, but also the health of the fetus.

Physical activity promotion typically implies that women always have the choice to exercise. The introductory chapter of *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004), stated:

Many women decide that pregnancy is a perfect time to make positive lifestyle changes which include regular physical activity, healthy eating, managing stress, and avoiding drugs, tobacco and alcohol. The decision to improve your lifestyle during pregnancy may be the initial step toward a permanent healthier way of life for you and for your baby. (p. 1)

This statement assumes that women are in a position to choose a healthier lifestyle without accounting for the plethora of factors that can prevent women from having any choice at all. First Nations women often experience challenges of poverty, food insecurity, depression, and overall lower health status at greater rates than non-First Nations peoples (Health Council of Canada, 2005). Such challenges can affect a woman’s ability to exercise and avoid excessive weight gain during pregnancy.

Wolfe and Mottola (2002) state in the *PARmed-X for pregnancy* that, “If no exercise contraindications exist, the health evaluation form should be completed, signed by the health care provider, and given by the patient to her prenatal fitness professional” (p. 1).

It is problematic to assume that women have prenatal fitness professionals to support them through a pregnancy. Many First Nations women have minimal professional support throughout pregnancy, particularly those that live on rural and remote reserves (Lawford, 2011). Indeed, social and cultural considerations of First Nations women are completely ignored in this publication. For example, the inclusion of family and community members in prenatal activities is important to many First Nations women, who may view individualized activity as selfish. Additionally, pregnancy within First Nations communities is often viewed as a time to honour a woman's transition into motherhood that involves specific ceremonies to ensure the collective community responsibility for the wellbeing of the new spirit (Anderson, 2011). The inclusion of family and community members has the added benefit of producing a more culturally safe environment, which may encourage physical activity; however, this notion is not considered in these publications. First Nations women's abilities to engage in physical activity and avoid excessive weight gain during pregnancy are arguably constrained within macro issues addressed in the Aboriginal determinants of health such as poverty and community infrastructure (Loppie-Reading & Wien, 2009).

Said (2001) raised a number of questions in his work, such as who writes? For whom is the writing being done? In what circumstance? These are extremely relevant questions that need to be considered in the physical activity guidelines for pregnant women in Canada. *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) was a joint effort of the CSEP board of directors and the Society of Obstetricians and Gynecologists of Canada. These guidelines have been informed by only medical professionals and academics: 11 medical doctors, 12 PhDs, and

one nurse. The recommendations entail a medicalized screening process that culminates in “practical prescriptions” and a “tear-away medical clearance form” that can be completed by the obstetric provider and presented for participation in organized prenatal fitness activities (Davies, Wolfe, Mottola, & MacKinnon, 2003). Using Said’s (1982) questions, one can see that these guidelines are written by highly educated medical and academic professionals for other professionals and pregnant women who hold Eurocentric medicalized beliefs about pregnancy. This is evidenced in the language throughout *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) and further by the focus of the questions in the PARmed-X for Pregnancy (Wolfe & Mottola, 2002).

Knowledge as an exercise of power is a central theme within postcolonial feminist theory and there is a call to challenge dominant discourses that are created and perpetuated through speaking and writing (McEwan, 2001). Those responsible for the writing of guidelines have an implied knowledge and the ability to exercise power on those who read the guidelines, in this case, First Nations women. This power differential can have implications for the women who are meant to utilize such guidelines during their pregnancy. For example, if a woman is unable to engage in any level of physical activity, she may feel like a failure or it may intensify her perceived need for bodily surveillance. Recommendations from *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) and *PARmed-X for Pregnancy* (Wolfe & Mottola, 2002) can also imply that fitness leads to better mothering, which further marginalizes those that do not or cannot exercise.

Postcolonial feminist theory provides tools to question the assumption that scientists have the right and ability to “intellectually know, interpret, and represent others” (Cannella & Manuelito, 2008, p. 49). Through this lens, one can begin to recognize the dominant narratives that are so widespread, they are almost invisible. In this case, medical professionals construct bodies through a medical discourse and, in turn, teach women what they should know about their bodies in pregnancy. The relationship can be authoritative and often lacks a dialectical approach that recognizes a woman’s knowledge of her own body. For First Nations women, this marginalization furthers colonial and patriarchal efforts to control their bodies.

#### **Limited Access to the Guidelines**

Beyond the cultural and sociopolitical issues, simple accessibility to these guidelines can be difficult. The *PARmed-X for Pregnancy* (Wolfe & Mottola, 2002) is accessible online; however, *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) is only available for purchase online or, alternatively, by ordering it over the phone. After paying for the publication and shipping, the total cost was \$18.77. I find this particularly perplexing since the cost automatically excludes women who cannot afford it. Health Canada supported the production of these guidelines, yet many populations that might benefit from an educational resource on physical activity are excluded immediately. The costs of these resources may be particularly prohibitive to First Nations women. The Health Council of Canada (2005) reported that Aboriginal peoples are the poorest minority group in Canada and that First Nations, Métis, and Inuit women suffer greater economic disadvantage than

their male counterparts. Therefore, improving accessibility to physical activity resources for more marginalized populations is crucial.

### **Conclusions**

My analysis has demonstrated the overt and covert ways in which Canadian guidelines for physical activity in pregnancy marginalize First Nations women. *Active Living during Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner et al., 2004) and the *PARmed-X for Pregnancy* (Wolfe & Mottola, 2002) demonstrate the subjugation of First Nations women in health promotion. The recommendations and guidelines lack understanding of the context in which many First Nations women live, both practically and relationally. The reality for many First Nations women is such that communities might be unsafe for walking (Black, Raine, & Willows, 2008), women have primary responsibility of their households and finances, or they are the primary caregivers and have limited opportunities for physical activity (Poudrier & Kennedy, 2008). I propose that pregnancy and exercise guidelines should be more representative of the specific determinants of First Nations health. Useful revisions to these guidelines will require input from First Nations women and First Nations healthcare providers. I suggest a revised version of the guidelines include a diverse representation of images throughout the document. Certainly, there is a strong need for culturally safe health resources for First Nations women. Furthermore, the distribution of resources for physical activity and pregnancy should be addressed. Free, widespread distribution of this resource may improve the efficacy in the uptake or continuation of physical activity in pregnancy. As the World Health Organization (2005) stated, “The question should not be why do women not accept the services that we offer? But why do we not offer a service that

women will accept” (p. 48). First Nations women deserve resources tailored to both their cultural and situational needs. Physical activity guidelines for pregnancy that are culturally sensitive, competent, safe, and thus I argue more likely to be effective, can be created.

## Footnote

<sup>i</sup> In chapters two through four of this dissertation, I focus on First Nations women, though the later chapters include First Nations and Métis women. After completing the phases of research that informed these chapters, the community advisory board and participants advised me to include Métis women, particularly in the development of the app.

<sup>ii</sup> I draw upon data pertaining to Aboriginal peoples in general when First Nation specific data is unavailable.

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Chapter 3:

Decolonizing Health Research: Community-Based Participatory Research and Postcolonial  
Feminist Theory

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### **Abstract**

Within Canada, community-based participatory research (CBPR) has become the dominant methodology for scholars who conduct health research with Aboriginal communities.

While CBPR has come to be understood as a methodology that can lead to more equitable relations of power between Aboriginal community members and researchers, it is not a panacea. In this article, I examine CBPR's decolonizing potential and challenges to meeting this potential. Specifically, I argue that those who use CBPR need to recognize and expose the ways in which power inequities are perpetrated if decolonization is to result from CBPR. Further, I argue that one of the ways to meet CBPR's decolonizing potential is to utilize a postcolonial feminist approach.

It is now commonly accepted within Canada that research that is *about* Aboriginal peoples must be conducted *by* and/or *with* Aboriginal peoples. In fact, the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans* (2010), the guiding document for academic research in Canada, requires Aboriginal peoples' engagement in "Aboriginal research." While the *Policy* notes that forms of engagement may vary between research projects and communities, Aboriginal peoples' engagement and collaboration in research is no longer an option. The shift from health research conducted *with* and/or *by* rather than *on* Aboriginal peoples has been reflected in the growing popularity of community-based participatory research (CBPR) (Ermine, Sinclair, & Jeffrey, 2004; Viswanathan et al., 2004), as well as the requirement of the employment of this methodology in order to access some research funding opportunities (Ermine, Sinclair, & Jeffrey, 2004; Green & Mercer, 2001; Minkler, Glover-Blackwell, Thompson, & Tamir, 2003). These changes are based on the assumption that CBPR results in a more ethical and equitable approach to health research, one that results in Aboriginal peoples' desires and worldviews shaping research - in short, one that has the potential to facilitate the decolonization of health research. Indigenous researchers and communities are turning to Indigenous methodologies and ways of knowing; however, non-Indigenous scholars' use of these approaches can be critiqued as a form of colonizing these approaches. As a result, I offer another way of approaching CBPR: through postcolonial feminist theory. While, certainly, CBPR has its benefits, its potential drawbacks are often overlooked. In this paper, I argue that by situating CBPR within a postcolonial feminist lens, many of this methodology's shortcomings can be addressed. As a result, I argue that when used in concert with postcolonial feminist theory, those who employ CBPR will have a better

chance of ensuring that this methodology meets its considerable potential to serve as a tool for decolonizing health research.

This paper is divided into four sections. In the first section, I provide a history of the development of participatory research approaches and explain how this methodology has branched from action research (AR) to participatory action research (PAR) and community-based participatory research (CBPR). Second, I outline the strengths and weaknesses of a CBPR approach. Third, I provide an overview of postcolonial feminist theory and the ways in which this theoretical lens strengthens the potential for CBPR users to facilitate decolonization. Finally, I argue that the decolonization of CBPR can best be achieved through the employment of a postcolonial feminist lens.

### **Development of CBPR**

Participatory approaches to research such as action research (AR), participatory action research (PAR), and CBPR (which I will differentiate below) are understood to have been shaped by three main influences: Kurt Lewin, Paulo Freire, and feminist theorists. Lewin (1946) coined the phrase “action research,” which he defined as a methodology where communities identify their issues, plan, take action, and then evaluate the results. Lewin emphasized that behaviour occurs within historical and social contexts, is determined by the totality of an individual’s experience, and that individuals interact in inter-connected groups (Reason & Bradbury, 2008).

Drawing on Lewin’s (1946) work, influential educator/philosopher Paulo Friere built upon the AR approach by further developing AR’s *participatory* component. Freire’s (1972) book, *The Pedagogy of the Oppressed*, is considered a key factor in shaping PAR. Freire influenced PAR through his call for the reformation of the hierarchical model of

education and the production of knowledge (Leung, Yen, & Minkler, 2004). He encouraged members of marginalized communities to critically examine the structural reasons for their own oppression and to work towards social change (Baum, MacDougall, & Smith, 2006). PAR differs from conventional research methodologies in several ways: the PAR approach relies on conducting research *with* rather than *on* members of marginalized groups, which results in shared ownership of the research; PAR takes a community-directed approach; and the ultimate goal of PAR is action and positive change (Kemmis & McTaggart, 2000). PAR's focus on change has the potential to bridge the theory-practice gap that exists in most conventional research (Meyer, 1993; Munn-Giddings, McVicar & Smith, 2011).

The third major influence on AR and PAR methodologies was the work of feminist theorists. Feminist theories “have acted as an intentional counter to dominant theories about human experiences and strategies for change” (Frisby, Maguire, & Reid, 2009, p. 16). Traditionally, the academic lens has been one that is western, white, and patriarchal. As such, feminist researchers challenged biases inherent in traditional research practices and called for methodological approaches that were aligned with feminist theoretical perspectives. Such a perspective, they argued, would shift patriarchal ways of understanding the world and create opportunities for greater balance of power and emancipatory knowledge seeking (Harding, 1986; Reid, 2004).

AR and PAR thus emerged as reactions to difficulties that occurred within conventional positivist research (Wallerstein & Duran, 2003). Traditional research has been criticized because there are limited attempts to employ marginalized peoples' knowledge, there are difficulties in the recruitment and retention of participants, and the research is

seldom used for the betterment of the community (Jackson, 2002; Wallerstein & Duran, 2003). Moreover, in a traditional research approach, marginalized peoples are not empowered to generate their own knowledge in order to take action to work towards their own self-determined goals (Jackson, 2002; Wallerstein & Duran, 2003).

Derived from both AR and PAR, those who employ CBPR concentrate on research with *communities* (Etowa, Matthews, Vukic, & Jesty, 2011). Based on a systematic review of literature, The Agency for Healthcare Research and Quality (2004) defined CBPR as follows:

a collaborative research approach that is designed to ensure and establish structures for participation by communities affected by the issue being studied, representatives of organizations, and researchers in all aspects of the research process to improve health and well-being through taking action, including social change. To expand this definition, we conclude that CBPR emphasizes (1) co-learning about issues of concern and, within those, the issues that can be studied with CBPR methods and reciprocal transfer of expertise; (2) sharing of decision-making power; and (3) mutual ownership of the products and processes of research. The end result is incorporating the knowledge gained with taking action or effecting social change to improve the health and well-being of community members. (p. 22)

This definition incorporates all of the major components of AR and PAR with a further distinction of defining *community* beyond limited inclusion criteria such as setting or location; CBPR researchers further recognize communities as social entities. For example, George, Daniel, and Green (1998) defined a community as any group of individuals with something in common: “this definition includes cultural, social, political, health, and

economic issues that may link individuals who may or may not share a particular geographic association” (p. 186). The refinement of the use of the term community and the importance of *researched* community’s members identifying as a community provides a focused approach to this methodology.

There is often slippage in the literature with regard to classifying participatory methodologies. For the purpose of this paper, from this point on I will refer to CBPR as being inclusive of AR and PAR. While I recognize that despite sharing a common overriding framework, there are differences between these methodologies, CPBR has emerged as the current participatory approach of choice in health research.

### **Strengths of CBPR in Health Research**

There are numerous, well-documented strengths to adopting a CBPR methodology. Those who use this methodology try to ensure that research is more responsive to community members’ priorities by creating a more balanced exchange than other types of methodologies for knowledge production and social action in communities (Roche, 2008). Indeed, this methodology is intended to realign traditional power relations between the researcher/researched through the creation of equitable roles between researchers and non-academic stakeholders/participants (Israel et al., 2006). Park (2001) argued that CBPR includes community members’ perspectives in the fabric of the inquiry. The building of relationships between researchers and community members can improve the quality of the research, the validity of results, and ultimately improve community health with the development of appropriate health strategies (Leung, Yen, & Minkler, 2004). CBPR practitioners attempt to strengthen a community's problem-solving capacity through collective engagement in the research process. A participatory approach that includes

community members in all aspects of its design also allows for the innovative adaptation of existing resources and can lead to creative solutions specific to the community (Uphoff, 1991).

Overall, CBPR has the ability to democratize knowledge and use research to advance community action and social change (Masuda et al., 2011). Jagosh et al. (2012) confirmed many of the aforementioned CBPR benefits through a literature review focused on the utilization of participatory research in health interventions. The authors concluded that, in line with a previous systematic review of outcomes on CBPR (see Viswanathan et al., 2004), CBPR in health research can improve research quality, empower community members, improve the capacity of local communities, and create more sustainable health interventions (Jagosh et al., 2012). Indeed, the number of publications that have engaged with CBPR has increased drastically since the 1980s (Viswanathan, et al., 2004). The increase in CBPR publications is an indication that community members are playing a greater role in health research that directly impacts their communities.

### **Limitations of CBPR in Health Research**

As with all methodologies, there are a number of weaknesses associated with CBPR. Kothari (2001) argued that CBPR's limitations fall into two categories: technical limitations and "theoretical and conceptual limitations of participation" (p. 139). To this list, I would add a lack of an ability to account for relations of power.

Technical limitations can include the reality that CBPR is often a very lengthy process that can be influenced by time constraints, finances, and resources (Israel et al., 2006). Additionally, the researcher has minimal control over the project and much of the control exists within local, often unstable political and societal systems (Israel et al., 2006),

which can be difficult for researchers who are accustomed to having complete control over the research projects in which they are involved. Moreover, there has been no clear consensus on the definitions and descriptions of CBPR, which has led to confusion over the degree to which the criteria of CBPR must be fulfilled to meet the requirements of this methodology (Steckler & Dodds, 1998).

There are also theoretical and conceptual limitations to the CBPR methodology. The process of CBPR has been criticized with regards to its credibility in a scientific context due to the “absence of a theoretical framework” (Roche, 2008, p. 21). Despite the lack of a specific theoretical framework, CBPR has been strongly influenced by critical theory and feminist theories, particularly through these theories’ commitment to empowerment. Nevertheless, the tenets of CBPR, such as empowerment, are incorporated to varying degrees depending on community members’ desired approach to the research; this lack of consistency in approaches to CBPR can further challenge some researchers’ beliefs concerning the methodology’s integrity.

The third category of limitations to CBPR is the one upon which I will focus. CBPR cannot equalize all power relations; in fact, there are cases where CBPR may function to reproduce or re-inscribe existing power relations. Wallerstein (1999) went as far as to state that “there is never an equilibrium of power in community-based participatory research” (p. 39). In this section, I examine the ways in which power can be re-inscribed through CBPR and the ways in which a postcolonial feminist approach to CBPR can resist this tendency. First, I will examine how Western worldviews/perspectives currently dominate health research landscapes. Second, I will address how the structure of the academy limits health researchers’ abilities to fully share research responsibilities with

the community. Third, I will consider issues in upholding the ideals of CBPR and the distribution of power between health researchers and communities.

### **Dominance of Western World Views**

Cooke and Kothari (2001) argued that the “discourse [of CBPR] itself, and not just the practice, embodies the potential for an unjustified exercise of power” (p. 4). Western academic discourses are embedded in a context of colonialism and oppression, which thus influence how CBPR is conducted. Health researchers exercise power to position their worldviews hierarchically above the community members with which they are working. Smith (1999) argued, “research is one of the ways in which the underlying code of imperialism and colonialism is both regulated and realized” (p. 7). For example, as Smith (1999) pointed out, Western worldviews can (re)inscribe the dominant discourses of the Indigenous as other, homogenize the experiences of marginalized peoples, or misrepresent Indigenous peoples.

The re-inscription of dominant worldviews can occur with CBPR. An example of this potential re-inscription is the concept of empowerment in CBPR. The practice of empowering marginalized peoples assumes that the health researcher has the ability to exercise power over the marginalized – s/he is able to empower these individuals. Ultimately, such efforts to empower can, in fact, further marginalize participants. Mohanty (2001), a postcolonial scholar, examined local knowledge and empowerment and pointed out that the Western concepts of empowerment for community members involved in participatory health research can further the process of domination in power relations. The concept of empowerment is viewed differently across cultures and the assumption that empowerment can be achieved through a Western research process can be problematic.

The example of empowerment is just one instance that illustrates how CBPR is riddled with complex issues of power and authority on a number of levels. Differentials of power exist within institutional structures and discourses and are reinstated within social hierarchies, such as those within the academy.

### **Limits from the Academy**

The academy is designed in such a way that it sanctions the health researcher as more powerful than the community members involved in the research – though community members are often referred to as “full partners” in the research. As noted by Cooke and Kothari (2001), power differentials can be identified within the responsibility structure where the academic researcher has to meet formal and informal bureaucratic goals bestowed on them by their institutions and funding bodies. For example, Cooke and Kothari (2001) pointed out that outsiders and experts often apply for the funding and set the research agendas instead of engaging in full community consultation and collaboration, which ultimately results in immediate power imbalances demonstrated in communication with funding sources and control over funding.

Furthermore, institutions pressure health researchers to produce documents and publications at rates that often exceed the timeframes of community meetings, which can result in insufficient community consultations and a failure to involve community members in all aspects of the research. Demanding academic or organizational deadlines may result in situations where quick decisions have to be made and where the researcher has to make decisions without consulting the community (Ponic, Reid, & Frisby, 2010). Overall, health research networks/systems are often not conducive to the achievement of more equitable power relationships.

**Difficulty in Upholding CBPR Ideals**

Cooke and Kothari (2001) have challenged the idea that CBPR is effective and positive for the community members involved in such research. They have charged that the ideals of CBPR are not upheld to the point of equal distribution of power between researchers and community members. Furthermore, the existing power relationships or status of the participants can greatly influence the research process and outcomes. Cooke and Kothari (2001) argued that participatory approaches can reinforce existing inequalities in power within communities, which does not uphold the ideal of empowering the most marginalized. Power imbalances can be identified within communities, where existing hierarchies persist and the more outspoken community members can dominate the research processes. Israel and colleagues suggested that such inequalities within communities affect who can attend planning meetings or interviews and participate and whose opinions are valid (Israel, Schulz, Parker, & Becker, 1998). Goebel (1998) also identified problems with power inequalities in communities and recognized the possibility that CBPR approaches can be “prone to the silencing of marginal or dissident views” (p. 284). The marginalization of non-conforming views can occur within CBPR, where methods such as focus groups may create group dynamics that allow for the dominance or passiveness of particular individuals in shaping the research (Fontana & Frey, 2005). Indeed, Cooke and Kothari (2001) examined the issue of local knowledge reflecting local power relations and found that the powerful members of the community can shape the research process or the research outcomes.

Thus, despite the appeal of CBPR processes, there remain several important limitations to this approach. I argue that the adoption of a postcolonial feminist lens can assist CBPR practitioners in maximizing CBPR's considerable potential.

### **Postcolonial Feminist Theory**

Health research is often understood as being deeply rooted in relationships of inequitable power, with researchers as the “experts” who have the monopoly over the production of knowledge and the “social power to determine what is useful knowledge” (Gaventa & Cornwall, 2001, p. 73). This notion, in turn, produces health research participants, particularly marginalized individuals, as powerless. Such a dichotomized understanding of the powerful versus the powerless fails to recognize power's complexity. Though CBPR has been heavily influenced by feminist and critical theory, it is not tied to one theoretical lens per se. Thus, in order to more adequately address the complexity of relations of power in CBPR, I turn to postcolonial feminist theory.

A postcolonial feminist perspective draws particular attention to the forces that maintain, sustain, and encourage uneven relations of power (Anderson, Khan, & Reimer-Kirkham, 2011; Reimer-Kirkham, 2003). Furthermore, a postcolonial feminist lens can be used to demonstrate how power is embedded in, and operationalized through, both history and place (Anderson et al., 2012). Postcolonial feminist researchers attribute existing power relations to the colonial legacy that still dictates what is deemed normal and appropriate in research (Cargo et al., 2011). Postcolonial feminist theorists work to “expose, describe, and change ideological and social structures that maintain inequities between Aboriginal and non-Aboriginal populations” (Smith, Edwards, Varcoe, Martens, & Davies, 2006, p. 31). A postcolonial feminist lens provides a tool to understand how

power, through advantage and disadvantage, operates based on historical positioning, class, race, and gender (Anderson & Reimer-Kirkham, 1999). In the world of academic health research, this means recognizing that academics are typically in an advantageous position of power and must be cognizant of this privilege. Postcolonial feminist perspectives are particularly complementary to the methodological tenets of CBPR because they share a commitment to challenging and disrupting dominant relations of power, including colonialism, and work to validate culturally-specific forms of knowledge. A postcolonial feminist lens acknowledges and brings to the forefront marginalized populations' experiences and histories, not just women's. As such, I argue that it is an appropriate and useful theoretical approach for CBPR practitioners to use.

### **Postcolonial Feminist Theory: Addressing CBPR's Limitations and Facilitating Decolonization of Health Interventions**

There are a number of ways in which the adoption of a postcolonial feminist approach to CBPR can challenge dominant relations of power at work in health research at both the micro and macro levels, which – in turn, can facilitate decolonization. In this section I argue that health-related CBPR that is informed by a postcolonial feminist approach can challenge dominant relation of power through displacing the health researcher as being the centre of relations of power. Further, through the process of reflexivity, CBPR practitioners are encouraged to continually examine relationships of power. CBPR also encourages a process of co-construction of data, which facilitates the production of health research that reflects marginalized peoples' worldviews.

**Decolonization**

Adopting a postcolonial feminist lens in CBPR allows for an analysis of and action upon the historical relations and the Western worldviews that have contributed to such deep structural inequalities in research, which in turn, works towards the larger project of decolonization. Decolonization is the ongoing process of exposing and challenging colonialist power, including all the institutional and cultural influences that have remained since colonialism (Ashcroft, Griffiths, & Tiffin, 2007). Decolonization of health research and CBPR requires a shift of perspectives in both the theoretical and research arenas to understand and acknowledge Indigenous peoples' worldviews. Smith (1999) argued that this does not imply a total rejection of Western knowledge; however, in order to understand marginalized peoples, those in dominant positions must hear marginalized peoples' stories from their own perspectives.

In order for decolonization to occur within health research, the effects of colonialism have to be examined and exposed. Postcolonial feminist theorists use the term decolonization to denote "a process of centering the concerns and worldviews of the colonized Other so that they understand themselves through their own assumptions and perspectives" (Chilisa, 2012, p. 13). These scholars recognize the potential of research to essentialize, exoticize, and reify colonial relations of power over marginalized peoples (McEwan, 2001; Mohanty, 2002). Postcolonial feminist theorists further caution against the homogenizing of research processes or communities of people to prevent further marginalization and power differentiation. From a postcolonial feminist perspective, health research environments are still dictated by colonial powers and discourses. Conscientious efforts that explicitly work towards decolonization through the intersections of CBPR and

postcolonial feminism inherently challenge the framing, defining, and homogenizing of communities and can instead co-create beneficial outcomes.

### **Power**

The decolonization of research processes is possible in CBPR when paired with postcolonial feminist theory's challenge of larger systems of power. Understanding power differentials within CBPR requires macro-level examinations of the factors that may impact individuals' positions and worldviews in research. Postcolonial theorists' formations of power work to disrupt "historical racist views and structural inequities that have emerged through the practices of colonization" (O'Mahoney & Donnelly, 2010, p. 443). Recognizing, representing, and creating space for Others through health research requires challenging structural inequalities and adopting a lens that is open to worldviews that vary beyond those typical of Western academia. By adopting a postcolonial feminist lens, one is able to examine power structures and focus on regular experiences of marginalization, micropolitics, and macrostructures that intersect to perpetuate oppression (Reimer-Kirkham & Anderson, 2010). CBPR practitioners who take up postcolonial feminist theory pay attention to power imbalances that exist on a large scale, such as the distinctions between the dominant Western research paradigm and non-Western societies. CBPR researchers can support the concept of decolonization through using a framework, like postcolonial feminism, that privileges the worldviews of the oppressed and marginalized (Roche, 2008).

Research relationships tend to reflect power dynamics that are influenced by broader social inequalities, such as race, education, and class (Israel et al., 1998). These dynamics can result in the researcher being produced as being superior to the community

members. Baum, MacDougall, and Smith (2006) noted that inherent in CBPR is the questioning of the nature of knowledge and the examination of the ways in which knowledge can further represent the interests of the powerful to preserve status in society. A postcolonial feminist approach to CBPR removes the health researcher from the central position of power and asserts that researchers and community members have equally valuable contributions to make to the research. By displacing the researcher from the central position, there can be a more equitable power relationship.

### **Reflexivity**

At the core of CBPR is reflexivity, which is a strategy that both health researchers and participants engage in to understand and improve research practices and outcomes. Such a strategy acknowledges existing power dynamics prior to the initiation of research and encourages the constant questioning and re-evaluating of the ways in which a more equitable balance of power can be achieved. Such evaluation and challenging of power throughout the research process is central to the process of decolonization through a postcolonial feminist lens. This process can work to resolve unequal power relations due to differences in class, gender, and ethnicity that may exist between researchers and participants, between participants themselves, and between researchers. Constantly and reflexively examining how power is manifested in research and then acting to make its exercise equitable and beneficial to those who are marginalized aids in the decolonization of academic health research.

### **Co-Construction of Knowledge**

The co-construction of knowledge through CBPR is another way in which a more equitable balance of power is purported to be achieved in CBPR. Boser (2006) stated,

“assuming that knowledge is power, action research embraces a democratic ideal of seeking to locate research within a normative process in order to share power that knowledge brings” (p. 12). Thus, CBPR researchers seek to share power and decision making in the generation of knowledge (Boser, 2006). Co-construction of knowledge can lead to relevant findings and solutions for the community with anticipation of a greater equilibrium of power at the community level. The adoption of a postcolonial feminist lens ensures that knowledge is not centred within a mainstream paradigm, but rather in the perspective of marginalized peoples (Racine & Patrucka, 2011). CBPR that is approached through a postcolonial feminist lens thus attempts to address micro-level issues of power in research while challenging dominant systems of knowledge and power.

Despite the benefits that can be accrued to attempts to facilitate decolonization in health research, there are conflicts that can arise; nevertheless, conflict with regards to power can be productive. In a systematic review on CBPR literature and health research, Jagosh et al. (2012) found that there can be positive outcomes that emerge through conflict between researchers and community members in the research process. Conflict can function as a means through which stakeholders can renegotiate power relations and reinforce commitment to the collaborative work. Furthermore, power, as discussed from a feminist CBPR approach, can be generative when it is used “with” rather than “over” others (Ponic et al, 2010), which is one of the tenets of CBPR. A power “with” approach challenges dominant relations of power that can be identified in conventional research practices that rely on a hierarchical expert approach to generating knowledge. Given the potential to challenge and disrupt dominant power relations, CBPR is a valuable

methodological approach that can benefit marginalized populations and realign power distribution when paired with postcolonial feminist theory.

### **Conclusions**

The importance of participatory approaches in health research cannot be understated. In order to destabilize systemic power imbalances, there is a need for continued shifting and evaluating of power dynamics within research, particularly to ensure that power differentials are not knowingly or unknowingly reinforced. CBPR continues to be recognized as the most effective way to work on health related issues *with* Indigenous peoples and other marginalized populations. As I have shown, however, this approach is not without its shortcomings. I argue that a postcolonial feminist approach to CBPR offers another approach and a stronger commitment to theorizing power in a way that can more effectively lead to decolonizing praxis within CBPR.

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Chapter 4:

Health/Service Providers' Perspectives on Barriers to Healthy Weight Gain and Physical  
Activity in Pregnant, Urban First Nations Women

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### Abstract

The purpose of this paper is to examine health/service providers' perspectives of barriers to healthy weight gain and physical activity for urban, pregnant First Nations women in Ottawa, Canada. Through the use of semi-structured interviews, I explored 15 health/service providers' perspectives on the complex barriers their clients face. By employing a postcolonial feminist lens and a social determinants of health framework, I identified the three social determinants of health the health/service providers believed have the greatest influence on their clients' weight gain and physical activity during pregnancy: poverty, education, and colonialism. My findings are then contextualized within existing Statistics Canada and the Ottawa Neighbourhood study data. I found that health/service providers are in a position to challenge colonial relations of power. I conclude by urging health/service providers, researchers, and policymakers alike to take into consideration the ways in which these social determinants of health and their often synergistic effects impact urban First Nations women during pregnancy.

Recent research findings in Canada have revealed that pregnant Aboriginal women frequently surpass weight-gain recommendations (Lowell & Miller, 2010) and have higher rates of gestational diabetes (Public Health Agency of Canada (PHAC), 2011) than non-Aboriginal women.<sup>i</sup> Further, researchers have reported that First Nations women have lower levels of recreational physical activity than non-First Nations women during pregnancy (Back et al., 2012). Nevertheless, there is a dearth of research regarding the factors that influence weight-gain and physical activity during pregnancy for urban First Nations women. Additionally, there is limited research that has incorporated health/service providers' understandings of barriers to a healthy and active pregnancy, which is a shortcoming due to the important roles these individuals play in influencing women's decisions during pregnancy (Smith, Edwards, Varcoe, Martens, & Davies, 2006). This study employed a social determinants of health framework and a postcolonial feminist lens to understand health/service providers' perspectives on the barriers to physical activity and healthy weight gain faced by urban First Nations women in Ottawa, Canada, during pregnancy.<sup>ii</sup> This article presents results from interviews with fifteen health/service providers – individuals who provide health care, service, or programs to pregnant, urban First Nations women. The health/service providers who participated in my research emphasized the importance of three social determinants of health on their clients' weight gain and physical activity during pregnancy: poverty, education, and colonialism. My findings suggest that health/service providers, researchers, and policymakers alike must take into consideration the ways in which these social determinants of health and their often synergistic effects affect urban First Nations women during pregnancy. In addition, I contend that the impacts of poverty, education, and colonialism must be considered central

rather than peripheral to the development of effective interventions, programs, and policies. Finally, based on my findings, I argue that health/service providers are in a position to challenge colonial relations of power.

### **Literature Review**

I begin my literature review by examining current healthcare, social services, and physical activity programming systems that exist in Canada. More specifically, I review the literature on providers' perspectives of the unique barriers First Nations peoples may experience in both the health and service provider realm and how these perspectives can serve to reproduce or challenge colonial relations of power. I will then examine three different articulations of the social determinants of health. The version articulated by the World Health Organization's (WHO) (2008) Commission on Determinants of Health, followed by the Canadian social determinants of health (Mikkonen & Raphael, 2009), and finally the Aboriginal determinants of health (Loppie-Reading & Wien, 2009). Using the Aboriginal determinants of health, I will then examine how they may impact First Nations women's pregnancies in Ottawa. I then examine current data on the health of First Nations women, followed by specific data on urban First Nations women in Ottawa in order to situate the social determinants locally.

### **Healthcare, Social Services, and Physical Activity Programming**

Canadian researchers have revealed that cultural and racial minorities do not have access, which includes both availability and delivery of culturally competent service, to adequate healthcare and services based on their social class, race, and/or ethnicity, which contributes to a cycle of oppression and social injustice (McGibbon, Etowa, & McPherson, 2008). Browne and Fiske (2001) have reported that many Aboriginal women's encounters

with healthcare and service providers are influenced by racism, discrimination, and structural inequities. Giles and Darroch (2014) argued the same to be true in the provision of physical activity. Browne and Fiske (2001) further pointed out that inequities in health and social indicators are “manifestations of the complex interplay of social, political, and economic determinants that influence health status and access to health services” (p. 128).

Certainly, health/service providers play a key role in the delivery of healthcare and programs to First Nations women. To date, the literature has not provided a great deal of information concerning health/service providers’ perspectives on the social determinants that influence the weight gain and physical activity of pregnant, urban First Nations women with whom they work. Such an understanding is essential to developing a well-rounded understanding of the barriers to healthy pregnancies. Further, documenting barriers and disparities in care and programs from providers’ perspective can inform the development of more effective and relevant interventions that have buy-in from stakeholders (Hoffman, Montgomery, Aubry, & Tunis, 2010). In some cases, providers working in the field may have a strong recognition of and insights into the determinants of health that impact women’s pregnancies, particularly those who specialize in First Nations women’s health, and have thus worked with and learned from numerous First Nations women. In fact, the WHO’s Commission on the Social Determinants of Health report (2008) urged public health practitioners to broaden the existing focus on lifestyle choices to include a social justice component that challenges health programmers and policies to address causes of poor health – even when these causes are beyond the scope of the health sector (Brassolotto, Raphael, & Baldeo, 2014; WHO, 2012). As Brassolotto et al. (2014) stressed, “those doing public health work have some degree of responsibility for identifying and

addressing the structural causes of poor health” (p. 323).

### **Social Determinants of Health**

The social determinants of health took shape in the Ottawa Charter by the WHO (1986) and were refined over the years to the most recent iteration found in the Commission on the Social Determinants of Health report (2008). The initial conceptualization of the social determinants of health in Canada was issued by Health Canada (1998); however, Mikkonen and Raphael (2009) published the *Social Determinants of Health: The Canadian Facts* to elucidate 14 determinants that are representative of the Canadian determinants of health: Aboriginal status, disability, early life, education, employment and working conditions, food insecurity, health services, gender, housing, income and income distribution, race, social exclusion, social safety net, unemployment and job security. Raphael (2009) reported that each of these determinants has a strong impact on the health of Canadians, more so than lifestyle factors such as diet and physical activity. Conversely, Loppie-Reading and Wien (2009) pointed out that “the impact of social determinants is manifest differently among the distinct Aboriginal groups in Canada” (p. 2). Despite Mikkonen and Raphael’s (2009) recognition that Aboriginal status is a determinant of health, Loppie-Reading and Wien (2009) further included a number of determinants that they argued uniquely impact Aboriginal peoples in Canada: differential experiences with cultural continuity, environmental stewardship, colonialism, and self-determination.

Given my focus on the role of physical activity on gestational weight gain, it is important to review the impacts of the social determinants of health on physical activity.

### **Physical Activity and the Impacts of the Social Determinants of Health**

Current Canadian guidelines for physical activity in pregnancy released jointly by the Society of Obstetrics and Gynecology Canada and the Canadian Society of Exercise Physiologists recommended that “all women without contraindications should be encouraged to participate in aerobic and strength-conditioning exercises as part of a healthy lifestyle during their pregnancy” (Davies, Wolfe, Mottola, & MacKinnon, 2003, p. 331). Researchers have synthesized the literature on physical activity during pregnancy and have found a healthy pregnancy, one that includes a healthy diet and exercise, improves outcomes with regard to gestational diabetes, hypertensive disorders, excessive gestational weight gain, birth weight, and child body composition (Mudd, Owe, Mottola, & Pivarnik, 2013). Despite these recommendations and the known benefits of physical activity in pregnancy for the mother and the fetus, fewer than a quarter of women in Ontario meet these guidelines (Gaston & Vamos, 2013) and it has been reported that First Nations women have even lower levels of recreational physical activity during pregnancy than non-First Nations women (Back et al., 2011). It is important to understand why First Nations women have lower levels of physical activity in pregnancy.

Opportunities to engage in physical activity are not equally distributed throughout the Canadian population. The ability to meet physical activity guidelines are influenced by many social determinants of health (Findlay, 2011; Gaston & Vamos, 2013; Giles-Corti & Donovan, 2002). Researchers have found that both educational attainment and income level are associated with levels of physical activity: Individuals with lower levels of education are less likely to participate in leisure-time physical activity, while significantly lower levels of physical activity are observed among individuals of low income (Findlay, 2011). In addition, researchers have found that women who are single, divorced, separated

or widowed, or are visible minorities are less likely to meet these recommendations (Gaston & Vamos, 2013). First Nations women in Canada are more likely than non-First Nations women to be single mothers (Statistics Canada, 2006), and experience a greater impact of social disadvantage (Frohlich, Ross, & Richmond, 2006). They are at particular risk of not meeting current physical activity recommendations during pregnancy.

Researchers have noted that there is a great deal of evidence between lower levels of leisure-time physical activity and the prevalence of obesity (Canadian Institute for Health Information, 2004; Craig, Cameron, & Bauman, 2001; Tjepkema, 2005).

### **Obesity and the Impacts of the Social Determinants of Health**

According to the First Nations Regional Longitudinal Health Survey (2003), 67% of First Nations women are considered overweight or obese. Among females in Canada in general, and Aboriginal females specifically, a relationship has been identified between obesity and income, as income decreases obesity tends to increase (Public Health Agency of Canada, 2011). Therefore, if socio-economic status declines, there is a rise in the risk of obesity (Reidpath, Burns, Garrard, Mahoney, & Townsend, 2002). Social determinants of health affect individuals and communities in complex, often cyclical ways; thus, inequalities caused by one determinant often stem from other perpetuating inequalities (Raphael, 2009). The confluence of lower levels of educational attainment, income inequality, food insecurity, and social policies interact to increase risk of obesity (Raine, 2004). Indeed, Oliver and Hayes (2005) found that after controlling for individual factors, there is an increased prevalence of obesity in deprived neighbourhoods. Understanding the ways in which providers view the impacts of the social determinants of health are key for

addressing and creating solutions that will be relevant for the community and practical for health/service providers.

There is increased concern about the need for data on urban Aboriginal people's health as the number of Aboriginal peoples living in urban settings is on the rise. Fifty-four percent of the Aboriginal population in Canada now resides in urban settings (Statistics Canada, 2006). Statistics Canada (2006) reported that more First Nations women lived off reserve in comparison to First Nations males. Statistics Canada (2006) reported that the Aboriginal population in Ottawa grew by over forty percent between 2001 and 2006 and was close to 13,000 people in 2006. Off-reserve First Nations women have higher rates of overweight/obesity than their on-reserve counterparts (Statistics Canada, 2007/2008). Moreover, urban Aboriginal peoples appear to have the fastest rates of growth in diabetes among Aboriginal peoples as a whole (National Association of Friendship Centres, 2012). Gestational diabetes rates among First Nations women are much higher than non-First Nations women. Health Canada (2001) reported the prevalence of First Nations women with gestational diabetes ranges from 8 to 18% versus 2-4% in non-First Nations women. Reading (2009) pointed out that pregnancy is potentially a crucial time in the life course to target obesity and reduce the burden of type 2 diabetes across the lifespan. The young and growing urban Aboriginal population necessitates the provision of appropriate services to meet their needs, specifically during the time period of pregnancy.

### **Theoretical Framework**

My research is grounded in a constructionist epistemology. According to Crotty (1998), all knowledge is constructed through interactions between humans and the world. Further, he noted that knowledge is transmitted within a social context. Constructionists

believe that culture shapes the way that people view a phenomenon (Crotty, 1998). My research on health/service providers' perspectives of barriers to healthy weight gain and physical activity for urban, pregnant First Nations women in Ottawa is thus well suited for investigation through a constructionist epistemological approach. A postcolonial feminist lens guided this research (Anderson, 2000; Anderson, 2004; Lewis & Mills, 2003; Racine, 2003; Rajan & Park, 2007). Such an approach can be employed to account for historical positioning, race, class, gender and the effects they all can have on First Nations women and their pregnancy experiences (Smith et al., 2006). Postcolonial feminism allows researchers to examine how power is exercised within systems that health/service providers work and how power differentials can affect women who access services. A key component of postcolonial feminism is an examination and the exposure of existing systemic issues or processes that can influence health care and program experiences. Such an approach provides opportunities for dominant Western academic tendencies to be questioned and challenged so as not to re-inscribe (intentionally or unintentionally) dominant Western discourses.

### **Methodology/Methods**

This research was approved by the Research Ethics Board at the University of Ottawa and adheres to the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans, specifically chapter nine: "Research Involving the First Nations, Inuit, and Métis peoples of Canada" (Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, & Social Sciences and Humanities Research Council of Canada, 2010). I conducted this project through a community-based participatory research methodology in partnership with the Odawa Native Friendship

Centre, located in Ottawa, Canada. I volunteered with the Odawa Native Friendship Centre for three years and have implemented physical activity programming with childcare for mothers who use the Centre. All phases of the research were guided by and approved by a community advisory board, which consisted of the Healthy Living Director and interim director, two mothers from the community, a community facilitator, a First Nations midwife, a First Nations personal trainer that specializes in prenatal fitness, and a First Nations dietitian. The community advisory board members and I co-created the semi-structured interview guide. I utilized purposeful, maximum variation sampling for this project (Patton, 1990). The advisory board identified five participants; the additional interviewees were located through snowball sampling (Creswell, 1999). The healthcare and service providers who I interviewed range from a midwife and social workers to family coordinators. The participants' widely varying positions and characteristics helped us to promote the representation of a broad range of expertise and experiences (Kuzel, 1999).

I conducted 15 semi-structured interviews with healthcare and service providers in the Ottawa area (see Table 1). Each participant consented to take part in the study and opted to select his/her own alias or be assigned one in the manuscript in order to remain anonymous. The interviews were all conducted in Ottawa at the various Aboriginal centres or a public location selected by the interviewee. The interviews lasted between 45 to 90 minutes and were digitally recorded, with the exception of one interview where the interviewee opted not to be recorded. Data saturation occurred after approximately eight interviews; however, in order to provide comprehensive insights, I opted to continue interviewing a diverse range of health professionals. The interview data were transcribed verbatim and participants received copies of their transcripts for verification, no changes

were requested. I entered the transcripts into NVivo10,<sup>TM</sup> a qualitative software data analysis program, in order to facilitate data management and coding.

**Table 1: Participant Characteristics**

<b>Participant</b>	<b>Job Title</b>	<b>Sex</b>	<b>Aboriginal/ Non-Aboriginal</b>
Lauren	Midwife	Female	Aboriginal
Sheldon	Healthy Living Director	Male	Non-Aboriginal
Marie	Healthy Living Interim Director	Female	Aboriginal
Terri	Fitness Leader	Female	Aboriginal
Jasmine	Dietician	Female	Aboriginal
Sarah	Personal Prenatal Trainer	Female	Aboriginal
Sandra	Parenting Program Director	Female	Aboriginal
Melissa	Nurse Practitioner	Female	Non-Aboriginal
Kira	Healthy Living Assistant	Female	Aboriginal
Belinda	Social Worker	Female	Aboriginal
Eileen	Social Worker	Female	Aboriginal
Janice	Yoga Instructor/ Community Facilitator	Female	Aboriginal
Alison	Family Coordinator- Early Childhood Education	Female	Aboriginal
Patricia	Cultural Educator	Female	Aboriginal
Amy	Program Coordinator	Female	Aboriginal

\*All participants have been assigned an alias

### **Analysis**

I conducted thematic analysis of the interview data. Thematic analysis, a foundational approach of qualitative analysis, is a particularly relevant approach in community-based research because it offers an “accessible and theoretically flexible approach to analyzing qualitative data” (Braun & Clarke, 2006, p. 77). Thematic coding can be both deductive and inductive (Lapadat, 2009). I used deductive coding by assigning codes related to 1) the research question, 2) the literature, and 3) the theoretical framework (Ayres, 2008). Unlike other forms of data analysis (e.g., interpretative phenomenological analysis), thematic analysis is not linked to a specific theoretical framework. As a result, I was able to use postcolonial feminist theory to inform my analysis by sensitizing me to data related to, for example, historical positioning, race, class, gender, and their effects.

I used Braun and Clarke’s (2005) six phases of thematic analysis. In the first phase, I familiarized myself with the data, which included the transcriptions of the interviews and focus groups and the systematic organization of data based on reading and re-reading. In the second phase, I generated initial codes or assigned pre-existing codes from the literature and theoretical framework, and then the collation of data relevant to each code. The third phase involved gathering all the data followed by collating the codes into potential themes. The fourth stage involved reviewing the identified themes and determining if the codes are relevant to the extracted data. The fifth step, as advised by Braun and Clarke (2006), is to define and name the themes while at the same time determining the overall story that the analysis reveals. Finally, the sixth phase is the last opportunity for analysis and the chance to select illustrative examples for the production of the final report.

The Aboriginal determinants of health (Loppie-Reading & Wien, 2009) provided the initial codes for categorization. A rigorous and systematic reading and coding of the transcripts helped to identify the main codes, which were poverty, food insecurity, physical environment and housing, childcare, and education. Further, I then identified the three main themes in the data, poverty, education, and colonialism, which I found had a synergistic impact on urban First Nations women's physical activity and weight gain in pregnancy. Members of the community advisory board were invited to take part in the analysis, although none took part mostly due time constraints and conflicting schedules. However, the initial findings were shared and discussed with the members of the advisory board, who found them to be representative of their experiences and their knowledge of others' experiences.

### **Results**

Three main themes were identified as influencing the participants' clients' weight gain and physical activity during pregnancy: Poverty, education, and colonialism. Several sub-themes related to poverty emerged: i) food insecurity; ii) physical environment/housing; and iii) child care issues. The interviewees identified education both generally (as a poverty reduction strategy) and as a strategy to improve health literacy as important approaches to improve excessive weight gain and low rates of physical activity during pregnancy. Last, the final theme identified by participants was that urban First Nation women's optimal weight gain and physical activity during pregnancy cannot be adequately discussed or examined without considering the ongoing and deeply-rooted impacts of colonialism.

**Poverty**

Every interviewee cited poverty as having the biggest impact on pregnancy and health outcomes for urban First Nations women. They noted that many of the urban First Nations women who utilize their services/resources exist in a constant state of “survival mode” that is caused by poverty. Eileen, a social worker, stated, “the big, huge barrier is the poverty issue and sort of the spin offs that might happen from that ... that’s really frustrating and it’s got to impact you at some point.” The CanFit Pro trainer, Sarah, confirmed that many urban First Nations women are dealing with major life issues. There is “always a crisis. There is always an issue. People are in survival mode about 80% of the time. So it is hard to establish health and routine when you are dealing with that stuff all the time.” Eileen further explained that in her program, the

Moms are often stuck in a hole- they are on OW [Ontario Works, which is a form of social assistance] and they have limited resources. Healthy food and exercise do not take precedence - they are working in survival mode, they have to figure out how to pay bills and figure out how they will get formula for their babies, they worry if their abusive partner is going to show up at their homes.

More pressing life issues take precedence over one’s ability to begin or continue a physical activity program. As Marie, the interim program director, stated,

I definitely do believe that if you do have low income that is going to add that additional stress to it. So yes, they can definitely participate in our programs here to get the physical fitness component, but if they are low income, they will probably have the additional stress and that will trigger so many detrimental things in their body. They may be working overtime to get additional income.

Issues of poverty extend beyond the physical deprivation of resources to stereotypes and perceptions that can further harm pregnant, urban First Nations women. Lauren argued, there is obviously a huge stigma that if you are Aboriginal you must need some extra support...being Aboriginal isn't a value-free label. If I were to say, I am an Aboriginal, people will say, "she doesn't pay taxes. She's rich, she has a car, probably gets free gas, all her health care is paid for, she probably has diabetes, she's probably going to get kidney disease, absolutely she is overweight because she is Aboriginal." You know?

**Food insecurity.** Associated with poverty, food insecurity was identified by the health/service providers as a barrier to physical activity and as facilitating excessive weight gain in pregnancy for First Nations women in Ottawa. As social worker Eileen stated,

often times women have to decide between diapers and vegetables - and diapers are the priority...they are then limited to relying on food banks for the nutrition end of things and it's not necessarily nutritious food. They have a lack of healthy options.

As Lauren expressed, "I think that people in general want to eat healthy and well when they know they are pregnant. The challenge though is accessing that healthy food, getting that food and having to make decisions about other realities." The participants explained that food insecurity can force women to access calorically dense, inexpensive foods instead of healthier, often more expensive options. Belinda further argued, "they [mothers] take their kids to McDonalds because they just need a break – the kids can play in playland."

Difficulties in eating well extend beyond financial issues. Marie suggested, "there are other things that get in the way of being able to eat well and that's transporting the food and having the time to buy the food and to get to it and all those other things as well too."

Prioritizing eating for health and preventing excessive weight gain can be a difficult when women are balancing the complex issues of food insecurity. As the dietician, Jasmine, explained about her work with pregnant urban First Nations women,

I try to assist with not just teaching about food, but trying to get them adequate food. That is probably the one issue - a lot of the clients say right off the bat. "I can't afford it. I don't have enough room in my kitchen. I don't have a fridge to keep the vegetables fresh" and then they are accessing the food bank or meal drop in programs, which don't always have the best choices there. It's hard. Then you are also trying to educate them about the weight, too- so it is almost on the back burner. They just want to make sure they are eating...and they are not really worried about the weight gain.

As a result, First Nations women's experiences with food insecurity can act as a barrier to eating well during pregnancy, which in turn influences weight gain.

**Physical environment and housing.** The health/service providers discussed the complexities of the physical environment and housing for many of the First Nations women with which they work. Eileen explained that many of her clients will not engage in leisure time physical activity due to fear of exercising in their neighborhoods:

It's the safety of where they live in the city. The majority of the Aboriginal population in Ottawa lives in Vanier, and it is a high crime, high risk area. If you don't know the city either, or if you are not used to living in the city, there is another challenge. You just don't know how to evaluate what is safe and what isn't, so you may choose to just not participate [in physical activity] at all.

Additionally, overcrowding in homes and unsafe housing were identified as problematic. Lauren noted that “housing is a huge issue. Good housing. Good quality. I think that’s a really important issue for women. Jasmine concurred “that a lot of times there are issues going on with finding safe housing” and this takes priority over healthy eating and exercising.

**Child-care issues.** The participants frequently cited child-care issues as barriers to physical activity for many of the urban, pregnant First Nations women with whom they work. The providers noted that many First Nations women do not have adequate supports to help with childcare. At one of the Aboriginal health centres, Jasmine explained,

We [directors of various programs] kind of pool money together to provide fitness programs, but we don’t have money to pay for childcare. So even if they are pregnant, if they have other smaller children, they can’t necessarily come because there is no one to watch the kids.

The Healthy Living Program Director, Sheldon, noted the complexity of being a mother: “there are so many women in the community that are single moms. They are so busy working, taking care of their kids that the last thing they usually think about is taking care of their selves.”

### **Education**

The health/service providers consistently cited education as a barrier to physical activity and healthy weight gain in pregnancy. A lack of education was identified as leading to low health literacy among pregnant urban First Nations women. Jasmine noted that common themes in her dietetic counseling sessions reinforced that “there are so many myths around pregnancy and around weight gain...in terms of when you get pregnant:

women shouldn't exercise a lot. Right? If anything, you should just walk. Um, you're eating for two; don't worry about what you eat. All these kind of crazy myths." One of the social workers pointed out, "for the most part I think the obesity is just because, first of all, a need to learn about what to eat in order to reverse the lifestyle. I think it's missing - there is not enough of it." Jasmine identified education as a determinant of a healthy pregnancy "because you might not be aware of some of the resources that are out there. You might not be able to access or understand some of the health information that you need." Sheldon reiterated the need for health literacy:

I think some people use it [pregnancy] as an excuse to go crazy and eat too much.

Some other people use it as an opportunity to start doing things properly. Make the right choices. But you can't make those choices unless you have the information.

The nurse practitioner, Melissa, added that there is a great deal of misinformation around healthy and active pregnancies and explained, "if the women have access to the internet at home, there is all kinds of stuff. But the skills and knowledge to filter through the information is inconsistent – so that can present issues." However, Sarah argued that there is a disconnect between knowing and doing:

I think everybody is aware- we are bombarded with information constantly, even in community, the health nurse, doctors, in the clinic, so many different programs and movements with diabetes and everything- so people are aware- but there is a gap between the knowledge and the action. I think that is what needs to be filled.

### **Colonization**

The participants identified the ongoing impacts of colonization on the practices and policies that First Nations women experience in direct and indirect ways. The majority of

the health/service providers argued that colonization has contributed and continues to inform practices and policies that impact First Nations women's health. As Sarah noted,

we can't have this conversation [about active and healthy pregnancies] without talking about the impacts of colonization and the Westernized diet and being taken off the land and not being able to hunt and collect all of our medicines from the land anymore, this [poor health outcomes] is the real impact of that... Prior to colonialism, our mothers, grandmothers, our aunts had our own traditions, values, and practices around pregnancy and around birthing.

Such a shift in practices during pregnancy demonstrates the complex and ongoing impacts of colonial policies and practices on First Nations women. One of the social workers commented on the shift away from physical activity as being one of colonization's impacts on First Nations health but added, "I don't think it's entirely the lack of physical activity. I think the impact's been bigger on Aboriginal people because of all the other losses as well." As Lauren explained:

I think just being born and registering as an Indian with the federal government implies a lot of things. Your housing you are going to get, the food you are going to get, the schools you are going to go to... As soon as you are First Nations Indian your life is completely different than anyone else's immediately... I personally believe it is the largest determinant of health for Aboriginal people, particularly women. And it is a legal determinant. So if you are legally an Indian woman under the Indian Act, your health is laid out for you.

First Nations women's experiences of colonial policies are evident in the disproportionate health burdens, marginalization, and racism that still exist in current program and healthcare settings. Sandra, the parenting program director stated,

I think that women are afraid of the healthcare system – whenever one of my mothers that “wears their culture” has a baby, Children's Aid Society is immediately called...many of the mothers are afraid to go to non-Aboriginal programs for healthcare – they don't want to let the non-Aboriginal person into their home for fear of what may happen.

These statements demonstrate the complexity of the life situations and social structures with which many urban First Nations women struggle. Alison, the family coordinator from an early childhood centre noted,

It's really difficult in pregnancy, because where does [physical activity] fit when you are struggling with your housing, struggling with your transportation needs, it's another stress and another thing that maybe you don't do well. So it can become a negative.

Taken together, the results show that the participants identified three main social determinants of health, poverty, education, and colonization, as exercising the largest impacts on urban First Nation women's weight gain and physical activity during pregnancy.

### **Discussion**

By engaging with the results through a social determinants of health framework and a postcolonial feminist lens, I am able to understand the synergistic ways in which poverty, education, and colonization coalesce to produce barriers to urban First Nations women's

physical activity and optimal weight gain during pregnancy. Below, I discuss my findings, particularly in light of the current situation in Ottawa. The results of both regional and national level reports provide data that align with the keys findings in my research with regards to the barriers my participants identified for First Nations women. In particular, I will examine the findings in relation to existing data on poverty, education, the ongoing impacts of colonialism, and how these determinants effect pregnant, First Nations women. I am in agreement with existing literature that addresses the marginalization of First Nations women in mainstream health/service settings (Browne, 2005; Browne, 2007; Browne & Fiske, 2001; Browne, Fiske, & Thomas, 2000; Smith, Edwards, Varcoe, Martens, & Davies, 2006). However, based on my findings, I contend that First Nations women seeking health/services in non-mainstream settings, such as Aboriginal specific health and community centres, experience care that is attentive to their needs in a culturally safe and relevant manner in comparison to mainstream settings. In fact, I argue that such Aboriginal organizations serve the community and work to challenge inequities and address the colonial legacy.

### **Poverty**

The key informants in my research identified that the First Nations women they serve in the Ottawa community are likely to be single mothers, have high rates of unemployment, and often live below the poverty line. These findings are in line with Statistics Canada (2006) data, which show that Aboriginal women in the Ottawa region are twice as likely to be single mothers as non-Aboriginal women. They have a rate of unemployment in the working age population (25-54) that is almost twice as high as the rate for non-Aboriginal women. Moreover, Aboriginal women in Ottawa have the lowest

median income (\$23,982) compared to non-Aboriginal women (\$27,677), with 26% of First Nations women living below the poverty line (Statistics Canada, 2006). Eileen raised the issue that pregnant, urban First Nations women are often in “survival mode” due to poverty.

Women that are living below the poverty level are exposed to a plethora of poverty-related determinants of health, such as food insecurity. Food security exists when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life (Food and Agriculture Organization, 1996). According to a study by Health Canada (2007), 33 percent of off-reserve First Nations households were deemed food insecure, with 14 percent being severely insecure. My findings concurred with Health Canada data as my participants noted their clients struggles with food insecurity and their high reliance on food banks. Aboriginal women that reside off-reserve have greater exposure to urban obesogenic food environments than on-reserve women and have diets higher in snack foods and soft drinks compared to non-Aboriginal women (Canadian Community Health Survey, 2004). According to the Ottawa Neighbourhood Study (2011), the areas with the highest density of Aboriginal peoples in Ottawa are Vanier North (4.9%) and Vanier South (3.6%); residents of these communities have individual incomes that are lower than the Ottawa averages, relatively poor access to grocery stores, higher access to unhealthier food outlets such as fast food and convenience stores, and have limited green space. The key informants in this study indicated that many of the clients that the Aboriginal centres serve are located in Vanier or other areas deemed to have poor access to healthy foods or safe walking areas. Researchers have demonstrated that low-income neighborhoods may discourage outdoor

leisure sports due to concerns regarding safety (Raine, 2004; Veugelers, Sithole, Zhang, & Muhajarine, 2008). It is therefore not surprising that health/service providers in my study reported that poverty, insecure housing, and one's physical environment impact physical activity and weight gain in many of the pregnant, urban First Nations women they work with in Ottawa. Thus, my findings suggest that interventions to increase physical activity and decrease excessive weight gain during urban First Nations women's pregnancies must also consider and address poverty if they are to be effective.

### **Education**

Education and literacy influence individual and family health across the lifespan (Mikkonen & Raphael, 2010). There are gaps in education outcomes between Aboriginal women and non-Aboriginal women in Canada (Statistics Canada, 2006). Statistics Canada (2006) reported that 45.6% of First Nations women 15-24 years of age did not graduate from high school compared to 22.8% of non-Aboriginal women. Such gaps in education between Aboriginal and non-Aboriginal women may be related to the disproportionate burden of ill health for Aboriginal women. A National Collaborating Centre for Aboriginal Health (NCCA) (2010) report revealed that education is connected with health literacy, health awareness, and self-care, all of which can impact well-being (Loppie-Reading & Wien, 2009). The health/service providers in my study recognized a disconnect between knowledge about physical activity and weight gain in pregnancy and action in adopting healthy practices with regards to the clients they serve. Relatedly, Sheldon and Jasmine noted that some of their clients have difficulty accessing and understanding the resources that are currently available. The interviewees understood these challenges as being tied to low levels of funding for First Nations students and an education system that does not meet

their needs (First Nations Education Steering Committee, 2011; Nguyen, 2011), which – as stressed by all of the participants in this study - must be understood as being related to colonialism.

### **Colonialism as a Determinant of Health**

Colonialism has had ongoing and immense consequences for First Nation women's health. First Nations women have a disproportionate burden of negative health outcomes and social indicators (Adelson, 2005; Wilkinson & Marmot, 2003; Vancouver Women's Health Collective, 2006). My findings suggest that the care/service providers in this study recognized the complex ways in which social determinants of health impact urban First Nations women in pregnancy. They were able to connect First Nations women's individual experiences with broader social issues that impact their health outcomes. The key informants identified some barriers that women may face in accessing healthcare and programs in non-Aboriginal settings.

Interestingly, the findings challenge much of the literature that currently exists in which First Nations women are marginalized in existing health care and service settings (Browne, 2007; Browne & Fiske, 2001; Browne, Fiske, & Thomas, 2000; Smith, Edwards, Varcoe, Martens, & Davies, 2006). The providers who participated in this study actively use physical activity and diet-related programming for urban pregnant First Nations women to address inequities and combat the ongoing effects of colonialism. These findings illustrate that at least some health/service providers believe that the barriers that pregnant, urban First Nations women face with regards to physical activity and preventing excessive weight gain during pregnancy cannot be addressed simply through neo-liberal approaches merely emphasizing personal responsibility. Instead, there is a need to recognize the

systemic and structural barriers that are in place and to ensure the provision of culturally competent care and resources.

Importantly, of the 15 participants in this study, 13 were themselves Aboriginal, which perhaps provided a perspective on the determinants of First Nations women's health/service experiences that was informed by their personal experience and knowledge of First Nations peoples. I would also argue that this understanding of the clientele by Aboriginal health/service providers strongly demonstrates the need to have more Aboriginal health/service providers in the field because of their potential shared experiences, backgrounds, ability to situate Aboriginal cultures and histories and finally creating a self-reliance within communities. In order to improve mainstream health/services for First Nations women, my findings suggest that the importance of cultural safety training for health/service providers, particularly as it relates to colonialism and other determinants of First Nations women's health, cannot be underestimated.

As with any study, this has several limitations, including sample size, self-reported data, and limited diversity of participants. The total number of participants that took part in this study may be a limitation. Another limitation is that I cannot extrapolate the findings to be applied to other geographic areas, populations, or professions; therefore, different results may be found in other communities. Finally, self-reported data can be problematic as humans are complex, inconsistent beings, and therefore there are sometimes inconsistencies between what individuals may report doing and what they have actually done. I recommend that future ethnographic research be undertaken to provide further insights between reported behavior and action of healthcare providers.

## Conclusions

My research has shown the importance of creating strategies that target physical inactivity and excessive weight gain for urban First Nations women during pregnancy; however, it is also crucial that comprehensive strategies are put into place that address the circumstances that contribute to this physical inactivity and excessive weight gain – that is, the social determinants of health. Merely encouraging First Nations women to eat healthy foods and be physically active during pregnancy will be ineffective if the necessary resources and supports that are required to do this are not available. By incorporating health/service providers' understandings of the barriers that urban pregnant First Nations women face when trying to be physically active and eat healthy foods, it is more likely that programs, strategies, and policies can be created or refined to better to improve maternal health and the challenging dominant social and political structures that continue to jeopardize urban pregnant First Nations women's health.

My research also shows that there is a need to develop multi-layered interventions on micro and macro levels in order to improve maternal health in urban First Nations populations. As future steps forward, I suggest the inclusion of the community in all phases of research and development of interventions. In a forthcoming paper, I examine pregnant, urban First Nations women's experiences of weight gain and physical activity in pregnancy; this will allow me to assess the congruence in understandings of the social determinants of weight gain and physical activity in pregnancy from varied perspectives. A well-rounded understanding of determinants of a healthy pregnancy may improve the collective impact of intervention designs, programs, policies and overall efforts to improve maternal and fetal health outcomes. Incorporating First Nations determinants of health and

worldviews into obesity prevention and physical activity promotion initiatives will create more relevant and inclusive public health interventions.

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## Footnotes

<sup>i</sup> I draw on data pertaining to Aboriginal peoples in general when First Nation specific data is unavailable.

<sup>ii</sup> This study was a part of a larger research project that included an evaluation of existing prenatal physical activity resources for pregnant First Nations women in Ottawa, as well interviews with pregnant or postpartum First Nations women in Ottawa to understand their personal circumstances, to determine that factors that influence their health, and ultimately, to identifying solutions to maximize their pregnancy outcomes.

Chapter 5:

A Postcolonial Feminist Discourse Analysis of Urban First Nations and Métis  
Women's Description of Pregnancy-Related Weight Gain and Physical Activity

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### Abstract

Excessive weight gain and physical inactivity in pregnancy have been identified as risk factors for negative health outcomes for mothers and fetuses, particularly among First Nations and Métis women. In this paper I engage with postcolonial feminist theory and critical discourse analysis to examine the question, “how do urban First Nations and Métis women understand pregnancy-related weight gain and physical activity.” I conducted focus groups and semi-structured interviews with 25 urban First Nations and Métis pregnant or postpartum women between the ages of 16 and 39 in Ottawa, Canada. Three prominent discourses emerged: First Nations and Métis women have different pregnancies than non-First Nations and Métis women because the women gain more weight and are more likely to develop gestational diabetes; First Nations and Métis women feel personally responsible for and shameful about excessive weight gain; finally, First Nations and Métis women need culturally safe pregnancy resources. My results illuminate the complex and often paradoxical ways in which discourses around weight gain and physical activity are produced and taken-up by First Nations and Métis women and their healthcare providers. Based on these findings, I argue there is a lack of accessible and culturally safe resources for urban First Nations and Métis women, specifically concerning weight gain and physical activity in pregnancy. I recommend the development of resources that are created for/by/with First Nations and Métis women to better address that issues this population identify as being of key importance.

Aboriginal (i.e., First Nations, Métis, and Inuit) women have the highest birth rates in Canada (Statistics Canada, 2006) and experience higher rates of poor outcomes in pregnancy and postpartum compared to non-Aboriginal counterparts (Auger et al., 2012; Oster, King, Morrish, Mayan, & Toth, 2014). Aboriginal women are more likely to be overweight/obese prior to pregnancy, to gain excessive amounts of weight in pregnancy, and to retain it postpartum (Brennand, Dannenbaum, & Willows, 2005; Lowell & Miller, 2010). Startlingly, First Nations status alone predicts significantly higher rates of gestational diabetes (Oster et al., 2014). Subsequently, gestational diabetes may contribute to an increase in type 2 diabetes in First Nations women, whose prevalence of type 2 diabetes is higher than First Nations males' (Dyck, Osgood, Gao, & Stang, 2012; Oster et al., 2014). Moreover, Dyck et al. (2010) noted that the prevalence rate of type 2 diabetes is particularly startling during reproductive years. Since excessive weight gain in pregnancy, physical inactivity, and poor diet increase the risk of gestational diabetes and other negative maternal and fetal outcomes (Chambliss et al., 2006; Leddy, Power, & Schulkin, 2008; Morgan et al., 2014), it is important to understand how First Nations and Métis women take-up dominant pregnancy weight gain and physical activity discourses.

Through focus groups and semi-structured interviews with 25 pregnant and postpartum First Nations and Métis women in Ottawa, Canada, I identified three main discourses that the women drew upon: First Nations and Métis women have different pregnancies than non-First Nations and Métis women because they are more likely to gain too much weight and develop gestational diabetes; First Nations and Métis women feel personally responsible and shameful for excessive weight gain; finally, First Nations and Métis culture must be included in pregnancy-related health messages. These findings

suggest that urban First Nations and Métis women simultaneously accept and challenge dominant discourses concerning pregnancy-related weight gain and physical activity. These findings make an important contribution to strengthening the development of strategies with/for First Nations and Métis women to contest health disparities and to optimize pregnancy experiences and outcomes.

### **Literature Review**

In order to contextualize my research, I begin by providing a description of the distinct Aboriginal groups in Canada. I then provide a literature review of existing epidemiological data on physical activity and health outcomes for First Nations and Métis women, a review of the benefits of physical activity and healthy weight gain in pregnancy, and literature related to dominant discourses of weight gain and physical activity in pregnancy in general. Finally, I provide an overview of discourses concerning First Nations and Métis women from both bio-medical and critical public health approaches to pregnancy. I do so to illustrate the complexity of the issues at hand and the need for engagement with both schools of thought in order to the garner increased insight needed to generate effective interventions. I draw on data from Aboriginal women overall and First Nations and Métis women in particular due to the paucity of data that exist that pertain to these populations.

### **Aboriginal Peoples of Canada**

‘Aboriginal peoples’ in Canada are the Indigenous peoples of Canada, the original inhabitants of Canada and their offspring (National Collaborating Centre for Aboriginal Health (NCCA), 2013). Aboriginal peoples are comprised of First Nations, Métis (mixed First Nations and European heritage), and Inuit (original inhabitants of the Arctic regions)

(NCCA, 2013). There are over 600 distinct First Nations communities or bands and 60 different languages. The most recent Canadian census data from 2011 indicate that there are approximately 1.4 million self-identified Aboriginal peoples, making up 4.3% of the total Canadian population (Statistics Canada, 2013). Upwards of 56% of Aboriginal peoples in Canada live off-reserve in urban settings, with the population of Aboriginal peoples in Ottawa estimated to be 30,000 peoples (Statistics Canada, 2013). The major shift of Aboriginal peoples to urban settings such as Ottawa has led to the call for more research to understand the complexities of urban Aboriginal determinants of health (Wilson & Cardwell, 2012). Despite varied and distinct cultures among Aboriginal peoples, one common experience that all of these peoples endured is colonization.

### **Aboriginal Women and Health**

Colonialism in what is now known as Canada has had extremely damaging impacts on Aboriginal peoples (Loppie-Reading & Wein, 2009), especially for Aboriginal women's health when compared to the general Canadian female population (Lemchuk-Favel, 1996). Tang and Browne (2008) have pointed out that Aboriginal women have raised concerns over epidemiological profiles that are used in public health campaigns, as they can further stigmatize women. These profiles that present worse health outcomes for Aboriginal women have led to them being pathologized for poorer health (Tang & Browne, 2008); the time period surrounding pregnancy is no exception. While health statistics can further stigmatize marginalized peoples, my purpose in presenting recent health statistics in Canada is to demonstrate the vast and continuing impacts of colonization. By acknowledging that these data are collected and produced within colonial context, I aim to remove the emphasis on personal responsibility and instead to point to the ways in which

First Nations and Métis women's poor health is in fact a product of particular socio-economic-historical conditions.

Pregnant First Nations and Métis women, their fetuses, and infants have elevated risks of ill health. Aboriginal women are at two-to-five times greater risk for gestational diabetes than their non-Aboriginal counterparts (Oster & Toth, 2009). Importantly, gestational diabetes is a predictor of macrosomia (high infant birth weight), which is associated with a number of adverse maternal and fetal outcomes (Stotland, Caughey, Breed, & Escobar, 2004). As a result, Aboriginal women have increased rates of macrosomic infants compared to Canadian women in general (20.4% versus 12.2%) (Health Canada, 2003). High birth weight and gestational diabetes contribute to the intergenerational cycle of diabetes, as they increase the risk of type 2 diabetes in both mother and offspring (Dyck et al., 2012; Dyck, 2002; Oster & Toth, 2009; Willows, Hanley, & Delormier, 2012). The disproportionate burdens of overweight/obesity and gestational diabetes among Aboriginal peoples are multi-faceted. They are a result of the complex interplay of the social determinants of health and colonialism (Loppie-Reading & Wein, 2009), and the resulting and ongoing disruption to social-cultural experiences of Aboriginal peoples (Adelson, 2005; Gracey & King, 2009; Young, Reading, Elias, & O'Neil, 2000). Physical activity and healthy eating in pregnancy may be tools to combat excessive weight gain, prevent gestational diabetes and other chronic diseases, and provide protective health factors for fetus and mother in pregnancy (Gaston & Vamos, 2013).

### **Benefits of Physical Activity and Prevention of Excessive Weight Gain in Pregnancy**

Physical activity has numerous physical, emotional, and psychological benefits, particularly for pregnant women (Gaston & Vamos, 2013). Physical activity during pregnancy has been found to reduce maternal weight gain, improve cardiovascular function, reduce the risk of gestational diabetes, and facilitate mood stability (Chambliss et al., 2006; Melzer, Schutz, Boulvain, & Kayser, 2010). Gaston and Vamos (2013) recommended that the promotion of prenatal physical activity should continue to be a public health priority. In order to support First Nations and Métis women in continued participation in or commencement of physical activity and healthy eating in pregnancy, an understanding of how First Nations and Métis women take-up discourses of physical activity and weight gain in pregnancy and the factors that influence this up-take is needed. Such knowledge can then be used to inform the development of relevant interventions, resources, and policies to support pregnant First Nations and Métis women.

### **Interventions to Prevent Excessive Gestational Weight Gain**

In both a recent systematic review (Van der Pligt et al., 2013) and a Cochrane review (Muktabhant, Ta, Lumbiganon, & Laopaiboon, 2015) it was demonstrated that there have been numerous lifestyle intervention studies to prevent excessive weight gain in pregnancy, a number which have been successful. It should be noted that despite effective interventions with general population groups, no interventions with high-risk groups have been found to be effective (Muktabhant et al., 2015). However, few interventions have been created to address the prevention of excessive weight-gain and physical inactivity in pregnancy among Aboriginal women. One initiative on four reserves in rural Quebec that examined this issue failed to have success in changing dietary and physical activity behaviours in Cree women. The researchers found that the diet and physical activity

intervention had only minimal impact on diet and concluded that “finding ways of encouraging appropriate body weight and activity levels remains a challenge” (Gray-Donald et al., 2000, p. 1247). In fact, more women in the intervention group developed gestational diabetes than those in the control group (16.2% versus 14.7%) (Gray-Donald et al., 2000). In response to the poor outcomes in this intervention, the Special Working Group of the Cree Regional Child and Family Services Committee (Working Group of the Cree Regional Child, 2000) suggested that researchers and health professionals need to ensure a better understanding of local and historical factors prior to implementing any initiatives and that they need to involve local pregnant women in the planning processes (Neufeld, 2010). A second initiative in Saskatoon, Canada, offered physical activity classes for pregnant women over a 2 year time period in 1995-1997 (Klomp, Dyck, & Sheppard, 2003). There were a total of 69 participants, 51% only attended one to three sessions and 49% attended four or more classes (Klomp et al., 2003). The researchers reported that designing a physical activity program for urban Aboriginal women was challenging but the improved fitness and self-esteem of participants make it necessary. To my knowledge, there are no physical activity and healthy living resources designed specifically for urban First Nations and Métis women in Canada.

### **Dominant Discourses of Weight Gain and Physical Activity in Pregnancy**

In the Western world, pregnant bodies are often subjected to excessive monitoring and criticism. A number of feminist scholars have focused research on the medicalization of pregnancy (Harper & Rail, 2012; Lane, 2008; Lupton, 1999; Ussher, n.d.), which assumes the form of constant biological and social monitoring and scrutiny (Johnson, Burrows, & Williamson, 2004; Parker, 2014). Moreover, biomedical notions of personal

responsibility for one's health and that of the fetus place sole responsibility for the fetus' health on the pregnant woman (Bordo, 1993; Lupton, 1999). Harper and Rail (2012) argued that not only are women watched by medical professionals, but also laypersons. This gaze encourages pregnant women to self-regulate their bodies and health to reduce apparent risks to the fetus. Such scrutiny can lead to the discourse that Harper and Rail (2012) identified as "mother blame," which assumes women have individual choice in and responsibility for the fetus' health.

Another discourse identified in the literature about pregnancy is that although weight gain is natural and expected in pregnancy, exercise and diet are important in controlling weight in order to gain the "right" amount (Harper & Rail, 2012). Pregnant women are expected to maintain their figures through self-discipline and have controlled pregnancy bumps. Nash (2011) addressed pregnancy as a "body project" in which exercising becomes critical because it is a time period where a "woman must often renegotiate her identity as her body shape and sense of corporeal sense are altered" (p. 54). Some pregnant women, however, resist this discourse by identifying pregnancy as a time period during which they are more lax with self-monitoring (Johnson et al., 2004).

The above discourses have been identified in primarily Euro-centric cultures. As a result, Harper and Rail (2012) called for research concerning health, obesity, and pregnancy with women of other cultures to understand subjugated women's appropriation or rejection of dominant discourses around pregnancy. Certainly, there is a dearth of research that examines urban First Nations and Métis women's experiences with physical activity and healthy eating during pregnancy and how First Nations and Métis women take-up or reject dominant discourses. Literature pertaining to First Nations and Métis women's

health often fails to acknowledge the ways in which colonization and its ensuing impacts on the social determinants of health have contributed to First Nations and Métis women's poor health. Indeed, the ability for First Nations and Métis women to engage in healthy eating and physical activity may be constrained by macro social determinants of health such as poverty and a lack of community infrastructure (Loppie Reading & Wein, 2009). Rather than examining the distribution of power and tackling upstream policies that have contributed to First Nations and Métis women's poor health, there is often a focus on addressing downstream outcomes of personal responsibility. Dominant weight gain and physical activity discourses that focus on personal responsibility for health often deemphasize the magnitude of macro-level determinants of health that impact First Nations and Métis peoples. The Social Determinants and Indigenous Health report (International Symposium on the Social Determinants of Indigenous Health, 2007) stated, "acceptable research must be directed at improving health, and 'not the structural characterization of ill health', which is 'thought to be a significant barrier to improved health and well being'" (p. 25). Through the adoption of a postcolonial feminist lens and research with urban First Nations and Métis women, in this paper I aim to address Harper and Rail's (2012) call for more research with subjugated women, while concomitantly conducting research that meets the Social Determinants and Indigenous Health report's (2007) demands for acceptable research.

### **Theoretical Framework**

Postcolonial feminist scholars assert that one should think of postcolonialism as "the contestation of colonial domination and the legacies of colonialism" (Loomba, 2006, p.16). Colonial legacies are deeply rooted and their impacts, some of which were legally

enacted, have been dire. The process of colonization has led to ongoing power inequities that continue to shape First Nations and Métis peoples' experiences and opportunities in life. Through examination of dominant discourses of physical activity and weight gain in pregnancy, I am able to examine the ways in which power and privilege exist and perpetuate colonial practices. First Nations peoples' identities, particularly women's, have been constructed by the Indian Act (1876). For example, prior to a revision to the Indian Act in 1985, First Nations women lost "Indian" status if they married someone who did not have legal Indian Status (Moss, 1990). The adoption of a postcolonial feminist lens ensures that I maintain a focus on the multiple levels of oppression that First Nations and Métis women may experience and acknowledge the ways in which First Nations and Métis women view their world.

Pregnancy and motherhood have been described as time periods where Aboriginal women's identities influence their experiences of access and experiences of care (Herk, Smith, & Andrew, 2010). Pregnancy is an occasion where women are negotiating new roles and identities that intersect with personal circumstances, experiences in care, and Aboriginal identity (Herk et al., 2010). Thus, a woman's shifting role to motherhood may influence First Nations and Métis women during pregnancy and shape the ways in which she views weight gain and physical activity. A postcolonial feminist approach to learning about First Nations and Métis women's understandings of physical activity and healthy lifestyle in pregnancy from their own perspectives can enable researchers to unmask issues of oppression. In order to uncover the ways in which Aboriginal women experience pregnancy, I turn to Spivak's (1990) terminology of "cultural others;" othering in this context can be understood as the ways in which Aboriginal women are constructed as

other. Etowa, Matthews, Vukic, and Jesty (2011) explained that othering may be caused by Aboriginal women being alienated from dominant political, economic, social, and health factors. Tang and Browne (2008) further noted that poor health outcomes may cause women to avoid health care systems that are not culturally safe, and I would add that women may not make use of resources or programs that are not culturally relevant and safe. In attempting to make participants' experiences with my research culturally safe, I utilized a community-based participatory research methodology with urban First Nations and Métis women.

### **Methods, Methodology, and Participants**

My community-based participatory research was completed in partnership with the Odawa Native Friendship Centre located in Ottawa, Canada. All aspects of this research were approved by the Research Ethics Board at the University of Ottawa and a community advisory board. My community advisory board was comprised of representatives from the Aboriginal Centre, pregnant First Nations and Métis women and mothers, and First Nations and Métis health workers (midwife, dietitian, community programmer, and two healthy living directors). In the early stages of the research process, the community advisory board and I reviewed current resources and programs in the Ottawa region and determined that, despite a number of Aboriginal organizations, there were no programs and/or resources that focused on physical activity during pregnancy that targeted First Nations and Métis women.

Community-based participatory research is an approach that ensures research is conducted *with/for* participants rather than *on* participants (Marshall & Rotimi, 2001). Indeed, this methodology, if used according to its guiding tenants, can realign traditional

power relations between the researcher/researched through the creation of equitable roles between researchers and non-academic stakeholders/participants (Israel et al., 2006). I made every effort to ensure that the research was responsive to and inclusive of community members' priorities by creating a balanced exchange for knowledge production and social action in the community. Initially, First Nations and Métis women in the community took part in the first focus group (this initial focus group was part of a separate project that I engaged in with the Canadian Association for the Advancement of Women in Sport and Physical Activity). The Mothers in Motion workshop looked to advance physical activity programs for women in communities across Ontario and revealed the need for physical activity programming that focused on pregnant women and mothers. Community advisory board members were then invited to co-create the research questions and inform all aspects of the research. In addition, I attended weekly fitness classes at the Odawa Native Friendship Centre, volunteered my services for three years with the organization to develop trusting relationships with staff and clients of the Centre, and secured external funding for the organization's Healthy Living Program. The building of relationships between researchers and community members can improve the quality of the research, the validity of results, and ultimately improve community health with the development of appropriate health strategies (Leung, Yen, & Minkler, 2004).

I conducted focus groups with pregnant or postpartum First Nations and Métis women in Ottawa with a First Nations female community member (who is a single mother of two) as the lead facilitator. The First Nations focus group leader is a regular community facilitator and bi-directional training occurred between the focus group leader and me. Focus groups are a qualitative technique of collecting data that rely on the systematic

questioning of a group (Fontana & Frey, 2005). The overall goal of any focus group is to encourage self-disclosure amongst the participants (Krueger, 1994). Krueger (1994) stated that focus groups function best when conducted with a homogenous population. Although I recognize that pregnant, urban First Nations and Métis women are not a completely homogenous group, there are a number of commonalities that exist within this group such as shared location, Aboriginal self-identification, and being pregnant. Selecting a group of people with similar characteristics creates a safe environment in which participants are more likely to share experiences and insights (Krueger, 1994).

The focus group participants were recruited in three ways: they were identified and invited by members of the advisory board, recruited through flyers posted at the Odawa Native Friendship Centre, and through snowball sampling. I invited pregnant, urban First Nations and Métis women and postpartum women in the community to take part in one of three focus groups that ranged in size from five to ten women. The focus groups were conducted at three sites in order to improve participation across various parts of the city. All of the focus groups with the community were conducted in a culturally appropriate manner (questions approved by the advisory board, piloted with some mothers in the community, facilitated in locations selected by the women, and conducted by a female, First Nation community member) that was dictated by the community members. I paid each attendee an honorarium of \$30 for her participation, covered transportation costs (bus tickets), offered food and beverages, and provided childcare for the length of the sessions. The duration of the focus groups ranged from one to two hours. The focus groups were guided by some pre-determined questions established by the advisory board in order to elucidate the barriers to optimal health and physical activity in pregnancy and to

understand how First Nations and Métis women take-up pregnancy discourses. Additional prompts were also used to ensure that the focus group was conversational in nature and to follow-up on points that participants made.

I also conducted semi-structured interviews with five participants who were unable to attend the focus groups, but who wanted to take part in the research. These qualitative interviews were conducted at a location selected by the women (three in homes, one in a coffee shop, and one in the participant's place of employment). The same interview guide that was used in the focus groups was followed in these interviews. I acknowledge that focus group and interview data have important differences, especially given focus group participants' ability to build off each other's insights. While I would have liked to have conducted only focus groups, I felt that the participants' desire to participate and their potential insights outweighed the possible shortcomings of using two methods of data collection.

Twenty-six women participated in focus groups or semi-structured interviews (see Table 1). The study participants were 92% First Nations, 4% Métis, and 4% non-Aboriginal. One non-Aboriginal woman, who attended the focus group by mistake, was excluded from the analysis. The women ranged from 16 to 39 years of age and had between one and six children. The majority of women gained more weight than recommended in Health Canada's (2010) gestational weight gain guidelines based on self-reported weight and height (body mass index - 40% normal weight, 60% considered overweight or obese). Each woman who participated in the focus groups or semi-structured interviews also completed a brief demographic questionnaire. This information was

collected and analyzed to produce basic descriptive statistics of the population of women that comprised the focus groups and interview participants.

**Table 1: Participant Characteristics**

Name	Age	Aboriginal Status	Pregnant/ Post partum	Occupation	Marital Status	# of kids	BMI
Erica	27	First Nations	Postpartum	Unemployed	Single	3	OW
Melissa	34	First Nations	Postpartum	Maternity Leave	Single	2	OB
Perry	NR	First Nations	Postpartum	Unable to work	Single	1	OB
Breanna	NR	First Nations	Pregnant	Unemployed	Single	1	OB
Sarah	39	First Nations	Postpartum	Employed	Living with Partner	3	NW
Anne	28	First Nations	Postpartum	Employed	Married	4	OB
Veronica	NR	Métis	Postpartum	Homemaker	Married	3	OB
Riley	16	First Nations	Postpartum	Student	Single	1	OB
Elaine	28	First Nations	Postpartum	Unemployed	Divorce	6	NW
Rena	24	First Nations	Postpartum	Unemployed	Living with Partner	4	NW
Vanessa	23	First Nations	Pregnant	Unemployed	Single	2	NW
Shiloh	30	First Nations	Postpartum	Employed - Nurse	Married	2	NW
Jessie	35	First Nations	Postpartum	Maternity Leave	Married	1	OB
Sally	34	First Nations	Postpartum	Maternity Leave	Married	3	NW
Shauna	NR	First Nations	Postpartum	Maternity Leave	Married	3	OB
Vanessa	19	First Nations	Postpartum	Unemployed	Single	1	OB
Cindy	27	First Nations	Pregnant	Unemployed	Living with Partner	2	OW

Natasha	39	First Nations	Postpartum	Unemployed	Single	2	OB
Sylvie	NR	First Nations	Postpartum	Unemployed	Married	3	NW
Lorie	19	First Nations	Pregnant	Self-Employed	Single	1	NW
Lucinda	23	First Nations	Postpartum	Maternity Leave	Married	1	NW
Jazmine	36	First Nations	Postpartum	Unemployed	Single	2	OW
Tarah	30	First Nations	Pregnant	Student	Married	3	NW
Karen	19	First Nations	Postpartum	Student	Single	2	OW
Lola	22	First Nations	Postpartum	Unemployed	Married	1	OW
Sandy	34	Filipino (removed from analysis)	Postpartum	Unemployed	Married	2	NW

- All participants have been assigned a pseudonym
- NR – Not Reported
- Body Mass Index- normal weight (NW); overweight (OW); obese (OB)

In recognition that focus groups and interviews co-produce meaning, I acknowledge that my positionality may have influenced the produced meaning, and that that the production of meaning differed between methods. I am a health researcher and public health professional who is trained in qualitative research methods and methodologies. I am of British descent and deemed “normal weight” by the World Health Organization’s (WHO) body mass index calculations (World Health Organization, 2012). I was pregnant at the time of the interviews and focus groups and gained what would be deemed as an excessive amount of weight during my pregnancy.

### **Data Analysis**

All of the focus groups and semi-structured interviews were transcribed verbatim and entered into NVivo10,<sup>TM</sup> a qualitative software data analysis program, in order to facilitate data management and coding. The transcripts were coded systematically and key codes were identified: shame, blame, obesity and gestational diabetes as normal, excessive weight gain, and lack of culturally relevant pregnancy related messages. I then conducted critical discourse analysis. Discourse is a term used to describe the large patterning of thought that structures text and creates meaning (Scott & Marshall, 2009). Discourse analysis focuses on the production of meaning; therefore, this form of analysis makes visible the ways in which discourses shape individuals, communities, and societies (van Dijk, 1993). Critical discourse analysis is a complementary analytical approach with community based participatory research and postcolonial feminist theory. Community based participatory researchers encourage the examination of language beyond an isolated context and postcolonial feminist theorists examine the intersections of marginalization and power through historical positioning, class, race, and gender. Since discourse analysis centres on the production of meaning, this form of analysis allowed us to understand the historical, social, and political factors that influence pregnant, urban, First Nations and Métis women's health. Critical discourse analysis is a tool to study and critique social inequalities and to focus on "the role of discourse in the (re)production and challenge of dominance" (van Dijk, 1993). Van Dijk (1993) explained that the main purpose of critical discourse analysis is to "analyze, understand and combat inequality and injustice" (p. 279). Essentially, critical discourse analysis makes visible the ways in which discourses shape individuals, communities, and societies.

I followed Willig's (2003) approach to critical discourse analysis. The first phase of critical discourse analysis is to become familiar with the data and identify and interpret the discourses in the data. The second phase involves situating the discourses within broader societal discourses. The third stage involves closer examination of how these discursive constructions are "doing or achieving" and how this impacts the involved participants. In the fourth stage, the researcher identifies the participants' position relative to other discursive constructions. The fifth stage involves a systematic examination of the participants' positions and how they affect the participants' ability to exercise or resist power. The last and sixth phase the researcher attempts to grasp the subjective experiences shaped by the subjects' positions. Van Dijk (1993) stated that "critical discourse analysts (should) take an explicit sociopolitical stance" (p. 252) in order to address social injustice. An examination of discourses can help to illustrate how relations of power shape views of the body and influence choices (Wright & Harwood, 2009), I was particularly interested in the ways in which relations of power affected these views and choices in ways that perpetuate inequities in health.

I requested that the advisory board members take part in the data analysis, but no one was available due to time constraints. Blumental, Sung, Coatest, Williams, and Liff (1995) noted that attrition rates in some phases of community-based participatory research may be high due to the fact that research participation is often not a high priority for participants, particularly those with low incomes. I did, however, share the initial findings once I identified the main themes, with the community advisory board. These data were shared via email and advice was provided through email or in-person. The findings were discussed and I asked for feedback in order to ensure local and cultural relevance. It was

determined that the findings were congruent with the members' experiences and working knowledge of First Nations and Métis womens' experiences.

### **Results/Discussion**

My discourse analysis identified three key discourses: First Nations and Métis women have different pregnancies than non-First Nations and Métis women because the women gain more weight and are more likely to develop gestational diabetes; First Nations and Métis women feel personally responsible for and shameful about excessive weight gain; First Nations and Métis women need culturally safe pregnancy resources. The discourses I identified revealed the complexity of human nature through the ways in which they were taken-up in often paradoxical ways. For example, the women identified and accepted the differences in pregnancy for First Nations and Métis women compared to non-First Nations and Métis women as largely being genetic in nature, but they at times also identified First Nations and Métis cultural norms around weight gain as the cause of this weight gain. The women also identified the problematic ways in which shame and blame from healthcare providers operate, but they often shamed and blamed themselves for their weight gain and did not problematize ways the ways that they sometimes shamed and blamed women from within their own communities. Finally, the participants identified how despite evoking shame and blame in the women about excessive weight gain and physical activity, healthcare providers concomitantly fail to provide culturally safe resources for their female First Nations and Métis clients.

#### **First Nations and Métis Women have Different Pregnancies than Non-First Nations and Métis Women**

The participants asserted that First Nations and Métis women experience pregnancy

differently than non-First Nations and Métis women. These differences included the amount of weight gained, perceptions of weight gain, and the role of genetics. Melissa pointed out the disparities between what mainstream society identifies pregnancy-related weight gain looks like and what she felt actually occurs for First Nations and Métis women:

Society talks about it [what pregnancy should look like] a lot. From what I see in what the media portray and what actually happens with First Nations women who are pregnant, it's not really happening how they say it should be.

The participants identified that First Nations and Métis women tend to gain more weight in pregnancy than non-First Nations and Métis women. Lola reflected, “during this last pregnancy, I remember sitting with a friend of mine, she's a Caucasian and she was like, ‘I am only going to gain 35 pounds.’ I was like, what do you mean? She said her nurse told her that. I was shocked.” Jessie had a name for the differences in the way Aboriginal women gain weight compared to non- Aboriginal women: “I call that a white girl pregnancy [pointing to one of the participants who was ‘all belly’] - when they just have a belly. I gained weight all over.” For Elaine, excessive weight gain was somewhat inevitable for Aboriginal women: “there is nothing you can do...[If] you are going to gain the weight, you are going to gain.” Veronica furthered this line of thinking by sharing,

I really believe within our genes, it is there. My mom and I were talking about that yesterday. She was telling me we [her children] were all between 9 and 10 pounds. One of us was 11 pounds. My father was Métis...and he was 10 pounds as well. We were just talking that it is obviously genetics and there is nothing

we can do about it [gaining large amounts of weight and giving birth to large babies].

Awareness of gestational diabetes and its prevalence in First Nations and Métis populations also had a strong impact on the participants' understanding of pregnancy-related weight gain. Just as they saw themselves as being genetically predisposed to significant weight gain and large babies during pregnancy, they also saw themselves as prone to gestational diabetes. Veronica shared, "I was very cautious and terrified of getting [gestational] diabetes, very, very afraid. So that's why I was really trying to watch my weight, but my family was prone to diabetes." Cindy shared her experience with gestational diabetes:

I wasn't a huge beast when I had my son, but I ended up with gestational diabetes. It ran in my family. My grandmother had it, and my mom has type 2 diabetes. I thought it was a given. I just assumed I was going to get diabetes.

Erica agreed with this statement and added, "I thought so too...I just assumed I had it [gestational diabetes]!" Gestational diabetes was also a frightening prospect for Erica:

I was told that I had to lose weight because I was getting diabetic...They said that I lost 30 pounds. I couldn't handle the idea of injecting myself. It actually works, if you get scared enough. I don't have to take medications. My friend had to inject herself before every meal. I didn't want to go through that. It's the weight. Some people might have it through heredity. But most people it is the weight.

Overall, the participants illustrated that there is a sense of inevitability of excessive weight gain in pregnancy and gestational diabetes is feared and somewhat expected. The women presented conflicting views around gestational diabetes, with some acknowledging

a cultural vulnerability to it, whereas other women assumed that gestational diabetes was inevitable if one were overweight or obese. Further complicating matters, there were assumptions of weight gain leading to gestational diabetes and then to type 2 diabetes, an assumption that McNaughton (McNaughton, 2013) has described as “diabesity.” In identifying “belly” weight gain as “a white girl pregnancy” and in identifying large amounts of weight gain and gestational diabetes as being tied to genetics, the participants clearly illustrated the ways in which pregnancy carries with it cultural expectations concerning weight gain. In recognizing such factors, the women may be challenging dominant discourses around weight gain and physical activity in pregnancy (that First Nations and Métis women will typically have unhealthy pregnancies because of a lack of physical activity and generally unhealthy behaviours). Indeed, some participants’ resistance to dominant discourses demonstrates their agency in challenging representations of First Nations and Métis women in pregnancy and dominant relations of power. However, I also identified examples of how women accepted dominant discourses around overweight/obesity and excessive weight gain in pregnancy being “normal” for First Nations and Métis women.

Such acceptance of inevitable poor health for First Nations and Métis women demonstrates an exercise of the colonizers’ power to exercise power through the perpetuation of negative discourses of First Nations and Métis women’s health. I am not suggesting that First Nations and Métis women should subscribe to the same discourses as white/mainstream women; rather, I am pointing out the ways in which the discourses they do produce are affected by colonialism and reflect negative attitudes towards First Nations and Métis women. First Nations and Métis women do have agency to change their own

lives, but this is often undermined by colonialism, as reflected by the Aboriginal social determinants of health.

### **Shame and Blame**

Despite some participants' belief that genetics was the cause of seemingly inevitable excessive weight gain during pregnancy, study participants noted that there should be greater personal and community concern about excessive weight gain during pregnancy in their communities, and they also cited feeling personally responsible for and shameful of excessive weight gain and gestational diabetes in pregnancy. The women also illustrated how First Nations and Métis women may internalize the judgment from health care providers, which can lead to further self-shame. At the same time, however, some women identified First Nations and Métis women in their communities and blamed them for weight gain and physical inactivity during pregnancy.

Many participants felt that there was not a sufficient level of concern about obesity in their communities. Breanna noted, "I don't know if they are as concerned about it as they ought to be. I see a lot of people at [an Aboriginal Health Centre] who are obese. It doesn't really seem to be something they are concerned with." Anne added, "In the larger [First Nations] population, I don't think there is enough of a concern as much as there needs to be, especially with our younger women who are getting these earlier cases of diabetes." Jazmine concurred with these thoughts and shared that "at the prenatal group [that she attended] some of the woman...were very young. I don't think weight gain is an issue with them at all...Given that obesity is an issue overall in the Aboriginal community, I think it should be a concern." Shelby also shared her interpretation of the lack of concern in her community: "There should be [concern about excessive weight gain in pregnancy] because

like on our res [reserve], all of them are like obese, like, too big. They gained like probably a hundred pounds per pregnancy.”

Tarah detailed her experience with pregnancies of those around her:

My friends, my colleagues, the people that have been in my life...unfortunately they all, and I'm not judging them, unfortunately they all went forward and succumbed to the myths, where, oh I'm going to eat for two, I'm going to stop exercising. And then of course the overeating and not necessarily taking care of themselves health wise in terms of eating habits and things I've seen, and that's unfortunate...to not worry about the consequences, which is so detrimental because we know the statistics around obese women during pregnancy and it's setting their children up to become pre-diabetic even and all these health concerns about their own wellbeing during pregnancy.

Sarah explained how she felt responsible for her excessive weight gain due to her lack of exercise:

I sometimes feel like I should be pushing myself a little more. Even getting up off the couch and trying to do stuff like that is so hard. I understand what my doctor is saying when she says if I hadn't gained so much weight this would all be easier. The labour and recovery afterwards are not going to be ideal because of the weight gain. If I had more control over things like this [voice trails off]... It was always my intention to be more in shape before I got pregnant. Sometimes things don't happen the way you want them to.

In one focus group, the women discussed the changes in their activities during pregnancy in a way that indicated that they blamed themselves for low levels of physical activity and

excessive weight gain during pregnancy. Rena stated, “Before [pregnancy] I was always so active, like now I'm lazy and tired and exhausted.” Riley agreed and added, “Yeah, exactly. When I looked like an elephant, it was too late!! To be honest, I was really lazy.” Vanessa explained, “For me, I think it's just procrastination. If anything like, oh, I'll do it tomorrow, or I'll start and it's too cold out. Like, that's my excuse right now, is I can't go walking with him [her baby]; it's too cold out there.”

The women in the study not only felt a sense of shame and self-blame about their own bodies, but in some cases blamed other women in the community for their actions or lack thereof in addressing their weight gain and physical activity during pregnancy. One participant, Riley, discussed her home reserve, located just outside of Ottawa, and explained,

there's nothing to do, but then you don't really need a baby sitter because all your family is like right there. Just drop them off next door and go exercise, go walk around the res [reserve] or something. It's... I dunno why they choose to just sit on their butts all day.

Rena added, “they [First Nations women in her community], like, let themselves go. They don't exercise. They just sit at home and do nothing.”

The participants discussed that women in their communities do not seem concerned with obesity or weight gain in pregnancy, that they often gain a great deal of weight and do not exercise during pregnancy, and that overweight/obesity has become normalized within their communities. In particular, the younger focus group participants seemed to self-impose shame by describing themselves as “lazy and not motivated.” This was coupled with the fact that some participants blamed other community members for

choosing to be lazy – evident in comments such as “they choose to just sit on their butts all day” or “they gained like probably a hundred pounds per pregnancy” and “they let themselves go.” I did not anticipate the level of blaming of others in the community that occurred in the focus groups. Rather than recognizing societal level barriers that may impact their ability/opportunity to make healthy choices in pregnancy, many of the women blamed themselves and other members of the community for making apparently poor decisions or being lazy. They did not draw attention to the systemic barriers that could have been preventing these women from being more active. This is a troubling perspective in that it does not identify the impact that the social determinants of health have on individuals. The ways in which First Nations and Métis women experience self-blame may not be unique compared to their pregnant mainstream counterparts; however, I argue that the experiences and determinants of health that shape self-blame for First Nations and Métis women may influence the way in which shame and blame occurs, thus differentiating them from their non-First Nations and Métis peers.

There are a number of ways in which First Nations and Métis women are marginalized by social determinants of health. While, certainly, it is clear that women have agency in health decision-making, such decisions are made within a range available to them, as the social determinants of health tend to proscribe the range of choices individuals may have. From a feminist postcolonial perspective, gender, race, and colonialism act in synergistic ways that may exacerbate systemic discrimination and further marginalize First Nations and Métis women. Thus, despite awareness of the risks of excessive weight gain and gestational diabetes among Aboriginal women, the limited engagement in action and the predominance of feelings of self-blame may be indicative of the lack of recognition of

macro determinants of health. The social determinants of health were seldom acknowledged in the focus groups and interviews as impacting women's weight gain and physical activity.

**Shame, blame, and healthcare practitioners.** Feelings of blame and shame were sometimes generated by interactions with healthcare providers. Sally shared an exchange she had with her provider:

The doctor said one time I was dangerously overweight now... So it was always on my mind. Am I going to have gestational diabetes?... It was always in the back of my head that I was doing something wrong... I think you also feel ashamed with it, too. You feel like, sigh, you know? You want to go hide. You just feel like you got yourself into a situation where you are a beast. You try to make the lifestyle changes and you feel like nothing has changed and it affects your whole outlook.

Pregnant First Nations and Métis women who are overweight/obese may experience further discrimination during pregnancy. Shiloh, a pregnant woman and community prenatal nurse noted,

Society has a huge impact on the way we look and even the way the doctors look at us [Aboriginal women] too, even some of the nurses. The way some of my clients have been treated because of their weight - you're overweight, we are going to give you a [scheduled] c-section. All without even giving them a chance to lose weight or choose either way. I guess it just depends on the doctor and their knowledge of First Nations people [recognizing that Aboriginal women have larger babies].

Shiloh shared her own experience with her first pregnancy and explained that her doctor, was always on me about gaining weight because I did gain a lot of weight during

my pregnancy, but he never provided me with any time, or advice, and this is before I was a prenatal nurse and I didn't know anything. I had nothing to do with babies, so I was like, "oh boy, what am I gonna do?" He didn't offer me any information...he made fun of me when I gained weight - it was really bad! So I wish I did have somebody there that was a little bit more supportive.

Such experiences of discrimination led to the women feeling shame around Aboriginal status, shame of being overweight or obese, and a sense of personal responsibility for their health. The paternalistic, colonial nature of women's interactions with healthcare providers demonstrates the unequal power relations that can exist in the care women receive. Without contextualizing the histories of First Nations and Métis women, many were blamed by healthcare practitioners for their personal circumstances and left feeling disempowered. The critical gaze of health professionals is an exercise of disciplinary power to judge, but paradoxically, this judgment did not seem to be accompanied by any support. In addition to some of the women not feeling supported during the prenatal visits, participants were not offered resources to address concerns raised by the practitioners.

### **Need for Culturally Safe Resources**

The final discourse I identified in this study was that there is a lack of – but desire for - culturally safe resources about physical activity and weight gain for pregnant First Nations and Métis women's pregnancy. Cultural safety includes components of cultural awareness, sensitivity, and competence, to further understand power differentials inherent in healthcare services (Aboriginal Nurses Association of Canada, 2009). There was general consensus within the focus groups and through the interviews that First Nations and Métis

women felt excluded from or stigmatized by resources and public health messages. In regards to healthcare providers, Shiloh remarked,

I find they [healthcare professionals] do a whole lot of talking about us. How much we gain weight and gestational diabetes and blah, blah, blah. But they never focus any of their care around us and our culture or our communities. So if they want to fix the problems, they need to at least acknowledge our background in order to provide culturally sound care. You know? To where we'll feel comfortable and want to work out and want to feel healthy instead of feeling ostracized.

Participants noted that First Nations and Métis women are not represented in positive health promotion campaigns. Anne pointed out,

You don't see any Aboriginal women or a Métis or Inuit as a poster pregnancy. You don't anywhere. You don't see them in the store, the doctor's office. You don't see them. I think if we saw more, I know they show a different ethnicity, but you don't see our culture. I think that might encourage and make them feel more confident. Without showing us you are kind of saying we shouldn't - we are still shunned.

Lucinda identified other ways in which First Nations and Métis women are marginalized in pregnancy resources: "you can always buy one of those 'what to expect when you're expecting [books] when you're expecting, but it's not geared towards the Aboriginal community." Melissa described her experience of receiving a prenatal package and there was very little representation of First Nations and Métis women. Where First Nations and Métis women were included,

I would say is very negative. There was this little fridge magnet or sticker thing and it was a baby in a cradle-board and it had a cigarette with a big "x" through it. And

it said no smoking. I was like, "Why is this in here?" There is no white woman... getting the same magnet. I thought this is horrible. This shaming of the Aboriginal was the one thing for us that was in there.

The shaming of First Nations and Métis women extended from prenatal visits and resources into the moments following birth. Shauna shared, "I know that in various Algonquin (a First Nations group) communities [infants] are drug tested as soon as the baby comes out." Another focus group participant, Jazmine, added,

I come from [one of those] communities and that was one of my concerns. My niece had a baby and they tested that baby for drugs strictly because she was from that community. She's never done a drug in her life!

Such shaming of First Nations and Métis women as drug abusing individuals who cause fetal alcohol syndrome are informed by stereotypes that are used to discredit Aboriginal women (Tait, 2000). Smith, Varcoe, and Edwards (2005) have argued that health policies and programs sometimes inadvertently further stereotypes of addictions as the root cause of health inequities rather than focusing on historical trauma through colonial practices. The construction of Aboriginal woman as neglectful and irresponsible and thus requiring intervention is not new. In fact, Browne (2003) pointed out that misrepresentations of Aboriginal women were perpetuated by government agents during colonization. Falsifications in representing Aboriginal women created a pathway to blame women for poverty and poor health outcomes (Browne, 2003). LaRocque (1996) and Browne (2003) have contended that the continued dissemination of negative images and stereotypes of Aboriginal women has had profound impact on self-image.

The women were adamant that pregnancy-related messages should be positive and

relevant to their lives and culture. Anne shared:

I think we have to start by tying it [messaging] into the things that are important to us as a community right? Instead of shaming messages...’ It is my fault because I am not doing what I should be doing.’ We need to make it more of a positive message. Take in our community and our culture.

Tarah agreed that there was a lack of positive, culturally safe physical activity messages during her pregnancy: “If I was to see an [image of an] Indigenous woman being strong and active during her pregnancy, even in her eighth month of pregnancy, I would have been so inspired to see that. But I didn’t.” Certainly, the participants expressed a clear demand for physical activity and healthy living resources that address the unique aspects of the pregnancy journey for Aboriginal women.

First Nations and Métis women are marginalized by policies, practices, and particularly, resources; this was made evident by the fact that the women identified a lack of culturally specific resources available to them, especially those with positive messaging about pregnancy. It is imperative to examine how and why women are *not* represented in resources (Darroch & Giles, 2012) in order to identify how First Nations and Métis women, their experiences, and needs are ignored in many healthcare settings. Some of the women felt marginalized by the fact that they did not recognize themselves in any resources that were available. If women do not identify with the resource, they may be less likely to find the resources useful (Ritcey, 2010). The ongoing impact of colonialism and its enduring relations of power are evident in the way that First Nations and Métis women are excluded from positive messaging in health resources. The resources that were developed for First Nations and Métis women were described as being “very negative,” as was noted about

smoking magnet that had a baby on a cradle-board. Further, the women felt that when resources were tailored for them, they were often based on stereotypes and had negative connotations. Such shaming further perpetuates the oppression of First Nations and Métis women that has historical roots in colonial practices and policies. Aboriginal women have been historically constructed as flawed through discourses of them being drug abusing, drunk, lazy (Furniss, 1999), uneducated, and having babies with fetal alcohol spectrum disorder (Tait, 2000; Tang & Browne, 2008). Such constructions of First Nations and Métis women as flawed and “other” demonstrate the continued pathologization of First Nations and Métis women. Fiske (1993) explained that the construction of women as flawed has led to the “inferiorization of Aboriginal motherhood” (p. 20).

Relations of power are also evident in the ways in which First Nations and Métis women’s care is informed by racism and discrimination, often by healthcare providers. I argue that such health care encounters are shaped by a persisting colonial legacy. This result is in line with recent findings in the healthcare literature around Aboriginal women and mainstream healthcare encounters where Aboriginal women have reported experiencing the impacts of racism, sexism, and colonialism (Bourassa, McKay-Nabb, & Hampton, 2005; Darroch & Giles, 2015; Tang & Browne, 2008). The women in this study reported that healthcare providers deemed their weight gain and a lack of physical activity as problematic, yet the healthcare providers did not provide culturally-relevant support or resources. The participants noted a lack of helpful information from care providers and cited other community members and online sources of information as being more helpful to them. The implication of this is that not only are First Nations and Métis women blamed and shamed for their apparent lack of physical activity and excessive weight gain during

pregnancy, but they are deemed unworthy of culturally safe help from healthcare providers and thus turn to their own communities and cultures for solutions.

Colonizers must play an active role in ensuring that they provide the resources needed to ensure that First Nations and Métis peoples can address – in a self-determined manner - the health inequities that colonizers have played a large role in creating. Indeed, there must be a shift from dominant paradigms of health promotion to centralize First Nations and Métis perspectives and knowledges to create effective resources for First Nations and Métis women. The responsibility for historical atrocities committed by the colonizer are largely ignored when First Nations and Métis women are blamed for poor health outcomes, as there is no acknowledgement of or identified need to address colonizers' actions. First Nations and Métis women seeking care must be able to access resources that are relevant and useful to them. As such, they need to be involved in all stages of the development and production of pregnancy-related resources.

This research makes significant contributions to the nascent literature on pregnant, urban First Nations and Métis women. First, the research provides a nuanced and in-depth examination of urban First Nations and Métis women's understandings of pregnancy-related weight gain and physical activity, which was lacking in existing academic literature. Second, the findings from this research provide the basis for the first physical activity promotion and obesity prevention intervention targeted at urban First Nations and Métis women, which is extremely important given the fact that their population is growing. Moreover, the novelty of this work also lies in the fact that this is a community-based approach, reiterating the importance of the community input/leadership in the development of a resource.

### **Conclusions**

Through the use of community-based participatory research and a postcolonial feminist lens, this study provides insights into First Nations and Métis women's experiences in pregnancy and elucidates some factors, especially exercises of power, that influence First Nations and Métis women's weight gain and physical activity in pregnancy. One of the most important findings of this research was the perceived lack of accessible and culturally safe resources for urban First Nations and Métis women, specifically concerning physical activity and weight gain in pregnancy. Therefore, I recommend development of resources that are created for/by/with First Nations and Métis women; this will ensure that issues that urban First Nations and Métis women themselves identify as being of key importance are addressed. Furthermore, this research reiterates the importance of self-determination of First Nations and Métis women. Resources developed to support this population must meet their self-identified needs.

The findings from this paper, in conjunction with research conducted with health/service providers (Darroch & Giles, 2015), will provide guidance for the final phase of this research, which is the development of a culturally safe pregnancy resource, requested by and created for/with urban First Nations and Métis women. I will run focus groups that include First Nations and Métis health/service providers, as well as pregnant and postpartum First Nations and Métis women. These groups will identify the type of resource women want (such as a book, pamphlet, online resource, application) and the exact content that will be included. I will then seek financial support from relevant organizations to support the development of the resource. Supporting women in being physically active and preventing excessive weight gain in pregnancy may aid in healthier

pregnancies for First Nations and Métis women. Equally important, it is a step towards creating greater equity in care by recognizing the need to honour and represent all women in pregnancy resources.

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Chapter 6:

Conception of a Resource: Development of a Physical Activity and Healthy Living  
Resource with/for Pregnant Urban First Nations and Métis Women in Ottawa, Canada

An earlier version of this paper was submitted as:

Darroch, F. & Giles, A.R. (submitted). Conception of a Resource: Development of a  
Physical Activity and Healthy Living Resource with/for Pregnant Urban Aboriginal  
Women in Ottawa, Canada. Qualitative Health Research

There have been a number of studies that have addressed the lack of access to prenatal healthcare for Aboriginal (i.e., First Nations, Métis, and Inuit) women in Canada (see Smith, Varcoe, & Edwards, 2005; Smith, Edwards, Martens, & Varcoe, 2007; Van Herk, Smith, & Andrew, 2010). However, there is limited literature on the availability and use of physical activity and obesity prevention resources for First Nations and Métis women during pregnancy, which are important components of prenatal healthcare. Understanding how to improve access to and use of resources by First Nations and Métis women is essential because this population is at increased risk of adverse pregnancy outcomes compared to non-First Nations and Métis women (Shah, Zao, Al-Wassia, Shah, 2011). Community-based participatory research (CBPR) is regularly cited in academia as an ethical way to engage marginalized populations in the research process (Leung, Yen, & Minkler, 2004; Minkler & Wallerstein, 2011). The purpose of this paper is to demonstrate the CBPR process that culminated in the development of a culturally safe resource for pregnant, urban First Nations and Métis women, which I argue will further support them in being physically active and preventing excessive weight gain during pregnancy, a community identified issue. Participants, who included pregnant or postpartum women and care providers who serve First Nations and Métis women during pregnancy, indicated that urban First Nations and Métis women have a lack of access to resources that are relevant to their needs during pregnancy. To overcome this barrier, they suggested the development of an online pregnancy application (“app”) created for/with urban First Nations and Métis women in Ottawa. The participants stressed the importance of developing the app with community members (mothers and end-users) and experts (health professionals) within the First Nations and Métis communities in Ottawa, Canada. Through a partnership with the

Odawa Native Friendship Centre, First Nations and Métis women in Ottawa and in collaboration with the National Aboriginal Council of Midwives, Aboriginal Warriors Program, and the Ontario Public Interest Research Group, we created the first online physical activity application with/for pregnant urban First Nations and Métis women.

This paper is divided into five sections. First, I situate First Nations and Métis women's health within the existent literature on physical health, Aboriginal determinants of health, and pregnancy information seeking behaviours. Second, I outline the strategies and stages of this CBPR as well as the utilization of a postcolonial feminist lens to compliment the CBPR strategies. Third, I provide an overview of the process of the research and the main results, including the need to develop culturally safe and positively framed resources and the need for an online application for pregnant urban First Nations and Métis women. I then explain how these findings were used to create the technologically-enabled approach to support urban First Nations and Métis women in pregnancy. Finally, I argue that CBPR is an effective approach to health promotion and technology development that can lead to community-generated, culturally safe, relevant, and creative health interventions.

### **Literature Review**

In order to situate this research, below I review literature related to First Nations and Métis women's health and pregnancy outcomes and the Aboriginal determinants of health, followed by an overview of the literature that supports the benefits of physical activity during pregnancy. I also examine women's information seeking behaviours during pregnancy. I draw on data on First Nations and Métis women when possible, but also draw on evidence from Aboriginal and other marginalized female populations where data for First Nations and Métis women are limited.

**First Nations and Métis Women and Health**

The Society of Obstetricians and Gynaecologists of Canada (SOGC) (2013) reported that Aboriginal women have higher rates of adverse health outcomes in pregnancy and delivery than non-Aboriginal women in Canada. Obesity is prevalent in Aboriginal communities in Canada and the SOGC has suggested that Aboriginal women have higher rates of obesity as a result of the transition from traditional to sedentary lifestyles, increased food insecurity, and limited access to recreational facilities (SOGC, 2013). Excessive weight gain and physical inactivity in pregnancy may jeopardize the health of the mother and offspring (Crane, White, Murphy, Burrage, & Hutchens, 2009). Indeed, obesity and physical inactivity have been deemed public health priorities for First Nations and Métis populations.

**Aboriginal Determinants of Health**

Using the social determinants of health perspective, health inequities are understood to be directly influenced by social, political, environmental, and economic conditions that shape individual experiences (Commission on Social Determinants of Health, 2008). Aboriginal peoples in Canada experience a complex interaction of social determinants of health; as a result, Aboriginal-specific determinants include oppression and historical trauma (King, Smith, & Gracey, 2009). VanHerk, Smith, and Andrew (2011) argued that Aboriginal mothers' identities in healthcare settings are "tumultuous" as a "result of historical and present day violence and discrimination attached to their role as mothers" (p. 62). Moreover, Aboriginal women's health in Canada has been uniquely shaped by colonial policies that have dictated and controlled Aboriginal women's pregnancy and birth practices (Benoit et al., 2007; Brown, Varcoe, & Calam, 2011). Health conditions, such as

poor maternal and fetal outcomes for Aboriginal women, are arguably current manifestations of colonialism. Further, Aboriginal women's abilities to engage in leisure time physical activity is affected by the aforementioned determinants of health.

### **Physical Activity**

Globally, physical inactivity has been identified as the fourth leading cause of death (Kohl, Craig, Lambert, Inoue et al., 2012). The First Nations Information Governance Centre (FNIGC) (2012) found that First Nations adults who were active were less likely to experience poor health conditions and reported feeling more balanced emotionally, mentally, physically, and spiritually than their less active counterparts. Despite the extensively documented benefits of physical activity in pregnancy, including controlling weight gain (Muktabhant, Lawrie, Lumbiganon, & Laopaiboon, 2015), a large proportion of women do not achieve sufficient levels of physical activity (Gaston & Vamos, 2013), with reported activity levels decreasing as pregnancy progresses (Hegaard et al., 2011). Physical inactivity during pregnancy may contribute to intergenerational impact of overweight and obesity on children (Symons-Downs, Evenson, Chasan-Taber, 2014). Moreover, overweight and obesity are risk factors for type 2 diabetes (World Health Organization, 2015). The prevalence rates of type 2 diabetes have been deemed alarming high during reproductive years for First Nations women (Halseth, 2013; Health Canada, 2000). Further, Dyck et al. (2010) argued that both intra- and intergenerational impacts of diabetes may be particularly concerning among First Nations women and have suggested prevention initiatives during reproductive years. In a recent meta-analysis, it was demonstrated the women with higher levels of physical activity before or in early pregnancy have significantly lower risk of developing gestational diabetes (Tobias, Zhang,

van Dam, Bowers, & Hu, 2011). Thus, pregnancy is an important time period to support women in maintaining or becoming physically active. Pregnancy has been identified as “teachable moment” where women are more motivated to change their behaviours (Phelan, 2010). In order to seize this opportunity to support First Nations and Métis women, it is important to understand what information women seek and the most effective way to deliver knowledge to promote uptake.

### **Pregnancy Information Seeking Behaviours**

There is a marked increase in women’s information seeking behaviours during pregnancy. Nevertheless, Berman (2006) noted that it is essential to recognize that not all members of society have the same access to information; further, not all members of society are represented equally in pregnancy resources. Ritcey (2010) found that the majority of pregnancy resources published for pregnant women’s informational needs reflect the needs and attitudes of dominant members of society. Ritcey (2010) also found that when pregnancy resources do include Aboriginal women, they may reinforce negative stereotypes. As such, there must be a shift to create resources that are accessible, relevant, and meaningful for First Nations and Métis women and that address their unique social determinants of health.

The internet now plays a significant role in health information seeking and decision making in pregnancy (Lagan, Sinclair, & Kernohan, 2010). A recent pan-Canadian working group agreed that the in-person delivery of interventions is not feasible in reaching a national population; as a result, the group suggested that mobile technologies might be more efficacious to deliver pregnancy-related health interventions (Adamo et al., 2014). Notably, access to wireless networks in Canada is extremely high, with 99% of Canadians

having access, 90% owning a mobile phone (Nordicity, 2013), and close to 70% of women of childbearing age are regular smart phone users (Quorus Consulting Group, 2012). A recent exploratory study of almost 300 women in the Midwestern United States found that almost all of the participants used the internet for pregnancy health information, half of the women used the internet for information regarding physical activity, and those women that sought information on physical activity reported an increase in their knowledge and confidence to make decisions regarding being active in pregnancy (Huberty, Dinkel, Beets, & Coleman, 2013). The internet is clearly an important resource for pregnant women when seeking information to make informed decisions (Lagan, Sinclair, & Kernohan, 2011). Joseph, Durant, Benitez, and Pekmezi (2014) argued that internet-based technology used for the promotion of physical activity is cost-effective and has the potential to influence large numbers of individuals. Thus, a technologically-enabled approach to support to pregnant, urban First Nations and Métis women should be considered.

Targeted health promotion for specific populations of women requires that resources provide information in a form and manner with which end-users identify. Cultural safety is a concept that recognizes the need to provide health services in a way that acknowledges that historical, social, economic, and cultural contexts influence health, and that examines overarching power inequities at a micro and marco levels, specifically among marginalized peoples such as Aboriginal peoples in Canada (Gerlach, 2007). Recently, it has been argued culturally safe approaches must be applied in the area of physical activity promotion, particularly for Aboriginal peoples in Canada (Giles & Darroch, 2014). According to the Ontario Aboriginal Healing and Wellness Strategy (2010), Aboriginal health is holistic and includes the physical, mental, emotional, spiritual,

and cultural aspects of life. I draw on this understanding of Aboriginal health specifically, a “vision of wellness that balances the body, mind and spirit is promoted throughout the healing continuum” (Newhouse, 2004, p. 144) to inform this work. Honouring the tenets of CBPR, cultural safety, and respecting holistic understandings of health, I worked with/for urban, female First Nations and Métis community members to bridge the knowledge-praxis gap by co-developing a resource that they envisioned as being a helpful in promoting physical activity and reducing excessive weight gain during pregnancy.

### **Methodology**

This collaborative project was part of a larger research study that aimed to understand and address micro and macro determinants of healthy pregnancies in First Nations and Métis women in Ottawa, Canada. The research was conducted with the Odawa Native Friendship Centre through CBPR that was informed by a postcolonial feminist lens (Lewis & Mills, 2003; Mohanty, 1991; Spivak, 1990). CBPR is an iterative process that aims to mobilize community members, ensure the concerns of participants are addressed throughout every phase of the research process, address power issues between researchers and non-academic participants, and ultimately advance community action (Israel et al., 2006). A postcolonial feminist lens encourages researchers to explore the “monopoly on knowledge” caused by colonialism that deems non-Eurocentric “epistemologies as worthless or antiquated” (Alvares, 1991, p. 91). The combination of CBPR and postcolonial feminism acknowledges that local knowledge is fundamental to identifying and addressing social issues. Ethics approval was obtained through the University of Ottawa’s Research Ethics Board and a research agreement was developed with the Odawa Native Friendship Centre in accordance with best practices in CBPR (Viswanathan et al.,

2004) and CIHR standards of research involving First Nations, Inuit, and Métis peoples of Canada (CIHR, 2014).

### **Process of the Research and Results**

The research commenced with the formation of a community advisory board, which guided all phases of the research. The community advisory board consisted of seven people who were either representatives from Aboriginal Centres, pregnant First Nations and Métis women and mothers, or Aboriginal health or service providers who work with pregnant women. Members identified low levels of physical activity and excessive weight gain during pregnancy as issues of concern within their community.

To obtain an adequate understanding of the problems identified by community members, in the initial phase of the research, I conducted a postcolonial feminist critique of existing physical activity resources. This paper addressed historical positioning, class, race, gender, and the overall impact these forces have on First Nations women's health outcomes in pregnancy (see Darroch & Giles, 2013). The community advisory board then identified semi-structured interviews (Fontana & Frey, 2005) and focus groups (Krueger, 1994) as the best ways to collect data. They felt that it would be most relevant to interview health/service providers in the Aboriginal community and conduct focus groups with pregnant and post-partum First Nations and Métis women. As a result, in the second phase of the research, I conducted 15 semi-structured key informant interviews with a variety of individuals who ranged from health care practitioners to community programmers. The interviews focused on the barriers to and facilitators of physical activity that urban First Nations and Métis women face during pregnancy. These interviews revealed the need for positively framed physical activity and healthy living resources that represent First Nations

and Métis women and their cultures (Darroch & Giles, 2015). I worked with a First Nations community member who was employed as a research assistant/facilitator then completed three focus groups with 20 pregnant/post-partum urban Aboriginal women. In addition, I conducted five semi-structured interviews with women who could not attend the focus groups (for a total of 25 pregnant/post-partum urban Aboriginal women). In these interviews and focus groups, they discussed both barriers and facilitators to physical activity in pregnancy.

All participants who attended a focus group session or interview received food and drinks, an honorarium of \$30. Further, childcare was provided for the duration of the focus group or interview. The interviews and focus groups were audio recorded and transcribed verbatim. The interviews were returned to participants so that they could provide clarification. Only one participant requested minor revisions.

I then engaged in thematic analysis of all of the data, which was supported by NVivo10™ software. Thematic analysis involves recognizing and describing implicit and explicit ideas from the data through a process of coding (Guest, MacQueen, & Namey, 2012). Through an iterative research process, I reviewed the results and discussed them with the community advisory board.

As I illustrate below, the interviews and focus groups resulted in the identification of two key themes: 1) there is a need for First Nations and Métis specific resources that are reflective of their needs, inclusive of their culture, and positively framed; 2) The First Nations and Métis women overwhelmingly felt that an online application was the most relevant way to target the specified population.

### **The Need to Develop Culturally Safe and Positively Framed Resources**

The interview and focus group participants generally agreed that there is a need for culturally safe and positively framed physical activity resources created with/for First Nations and Métis women during pregnancy. As Anne lamented, “so many times we get stuff that is aimed at the Aboriginal community and no one asked us. We are like, ‘what the hell is this?’” Alice also argued for the importance of community members’ inclusion in resource design: “I think for meaningful change to happen and over [the] long term, it has to be community-driven...I think the messaging [for pregnancy resources] hasn't been properly shaped yet.”

Jennifer identified the need to link culture to resources: “there are a lot of women that don't have that [cultural] connection but are looking for some of those cultural teachings, so any stories we can gather will be helpful because I was really hungry for it [during pregnancy]” Similarly, Tricia explained that there is “a strong desire for women to return to their culture during pregnancy.” She noted,

If I was to see an Indigenous woman being strong and active during her pregnancy, even in her eighth month of pregnancy, I would have been so inspired to see that. But I didn't. And not to be negative, but we're just not there yet. And by me being there, I have pictures of myself training with kettle bells when I was 9 months pregnant, and I'm going to keep those for my family and my community to, “say you can do this,” but I would have loved to have that for myself going through it.

Like Tricia, other participants argued promoting physical activity and healthy weight gain in pregnancy for urban First Nations and Métis women requires role models from within the community, maybe even within one's family. As Jessika shared,

When I was little- my mom said I had to be 2 or 3 – so I wasn't that old, I told her I

remember you doing step aerobics when I was in daycare because it was right across and that image in imprinted in my mind – I think that is why I am into fitness: because I saw my mom do it at such an early age. It influenced me, because most time you don't remember things like that when you are that young – but I do remember it.

Jessika's comment reiterates the importance of local role models indirectly and directly influencing change because it was felt they can have a greater influence in their communities.

Participants further recommended the need for encouraging resources for pregnant women. As Anne stated, "we need to focus on the positive rather than the constant focus on illness, we need to shift the conversation to wellness." Tricia felt that a resource designed specifically for First Nations and Métis women would help support physical activity during pregnancy. Tricia exclaimed,

if there was something [a physical activity resource for First Nations and Métis women] created that had those elements [ancestors stories, connections to the land and being active], those stories and the images and the traditions about being physically active during pregnancy, if there was something like that, it would be phenomenal for our community, for our women who are trying to be healthy or who are looking for that supportive community, it would do wonders.

### **There is a Need for an Online Application for Pregnant Urban First Nations and Métis Women**

Information that is accessible and relevant for First Nations and Métis women is necessary during pregnancy. Selma identified the need for specific information, expressing

that she wished that she could have more support in terms of knowing exercise duration and weight management: “You should at least have “X” amount of exercise time throughout the day or the week just to maintain your weight.” This comment demonstrates a common theme in the data, that women within the First Nations and Métis community wanted information on physical activity and weight gain during pregnancy.

Once it was established during the focus groups that there was a need for physical activity in pregnancy resources for First Nations and Métis women, the participants discussed what type of resources would be most beneficial for members of their community. Isabelle felt that print resources were obsolete and explained in her experience: “Often you go to community health centres...there is a resource room or in the cupboard in the corner there are boxes of resources. Whether they are good or bad, nobody knows because they don’t get used.” There was overwhelming feedback that social media and online resources were the best ways to engage pregnant, urban First Nations and Métis women. In one focus group Karen stated,

everyone has this [pointing to smartphone]. People will give up food to have a data plan. It doesn’t matter where you live if you live in the city or in a rural and remote community. Aboriginal people want this [smartphone] – this is how they stay in touch with each other.

In another focus group, Sophie pointed out,

these young women are tech savvy. So I would do it [create a resource] electronically. Get away from the paper. Make it available on the web, Facebook, or some kind of social media. That’s what I would do. Because they are going to take a pamphlet, go home, and put it down, and never read it. But if they are at home,

they are going to surf the web, and most people do, and if they go to a site and come across this set up in a way that is easy to read, and understand, with the pictures that you are talking about [of community members], I think you'd get better value out of that.

Anne confirmed the need for an online application,

a lot of them [First Nations and Métis mothers] have their iPhone in one hand and their baby in the other. I think it is big for people who don't have anything else - these electronic things are very important to them. It is their connection.

As the discussion progressed, one young mother explained,

you know, one thing that I appreciated a lot [when pregnant] was getting updates every day from my phone from *What To Expect When You Are Expecting*. It was like everything was timed just right. This is what your baby is going through. Or they are preparing me for stuff. I find that helps... There are things I never would have thought of that are emailed to me. Something like that that took your culture into consideration would be great.

Overall, the participants indicated that pregnant women in the community would feel greater support through the development of an online resource.

As demonstrated above, the feedback from the interviews and focus groups overwhelmingly supported the creation of an online resource (“app”) for First Nations and Métis women. As a result, I conducted an additional focus group that included both key informants (those who took part in the semi-structured interviews) and urban First Nations and Métis pregnant women and mothers (there was only one new participant that attended this group and not earlier sessions) (n=14). In the first, I determined the exact components

that both knowledge users and health professionals wanted in the resource. I then worked with members of the Ottawa First Nations and Métis community to develop content.

The app was developed with/for First Nations and Métis women in the Ottawa community. First Nations and Métis experts were compensated for their time and expertise in creating content for the resource. Aboriginal experts, including a midwife, dietician, and physical activity specialist, all played roles in developing the app's specific content to ensure that the information provided was both culturally safe and based in scientific evidence. Additionally, a First Nations photographer was hired to capture images of members of the Ottawa First Nations and Métis community engaged in daily activity for use in the app.

Following the development of the initial iteration of the app, I held a second focus group 11 months later, which included both health/service providers and pregnant and postpartum women (n= 8). This focus group confirmed that I had captured the desired components in the application and sought more information to further refine the app's content. Based on recommendations and feedback from the final focus group, I developed the final version of the app. Women will receive weekly updates, tips, and recommendations that are relevant and coincide with the week of pregnancy. There are eight components that make up the app's weekly updates. The first section, *Celebrate Creation and Your Body's Journey*, focuses on the size of the fetus and the physical, emotional, mental, and spiritual changes a woman may experience during pregnancy. The second section is *Movement as Medicine*, which advises women on being active with recommendations on how to maintain or increase physical activity in both leisure time and daily living activities. In the third component, *Food as Medicine*, women receive

information about supplements and eating healthy on a budget. Next, the section called *Honouring Stories* consists of advice about any pregnancy related experiences that have been shared by community members. The following section is *Being your own Health Advocate*. In this section, app users are advised on how to address issues, such as cultural expectations around pregnancy, that may arise with healthcare providers and how to ensure one's needs are being met. In *Elder Wisdom*, Elders from the Ottawa community and First Nations and Métis community at large share their experience and wisdom concerning carrying a new life. The seventh section is called *Decolonizing Pregnancy & Knowing Your Cultural Past*. Here, community members share their process of decolonization and returning to/drawing on their culture during pregnancy. Finally, in the eighth section, women are provided with *Practical Planning Tips and Recommended Links and Resources*, which can be found both online and in Ottawa and surrounding communities.

### **Discussion**

Pregnancy may be the ideal time to support women to continue or initiate physical activity and prevent excessive weight gain. There is a demonstrated need for improvements in the development and implementation of pregnancy-related health promotion for First Nations and Métis populations. I argue that the use of CBPR in the development of health promotion resources for pregnant First Nations and Métis women is an integral component in the creation of a culturally safe, and thus successful, end-product. This CBPR effort led to the development of an online healthy living application developed with/for pregnant, urban First Nations and Métis women in Ottawa. To my knowledge, this is the first application of its kind for the promotion of physical activity, obesity prevention, and healthy living during pregnancy for this population.

Health promotion and resource development that is not initiated by and developed within the targeted community runs the risk of being ineffective. As a non-Aboriginal researcher, I had preconceived notions that a technology-enabled resource may not be desired by urban First Nations and Métis women in Ottawa, especially given the large number of urban First Nations and Métis women who live in poverty (Aboriginal Affairs and Northern Development Canada, 2012). I was thus surprised that the participants in the research requested an online resource. As Karen explained, most Aboriginal women in Ottawa have a smart-phone or access to internet and even forgo other essential resources in order to afford phone plans. This finding goes against “conventional” wisdom that lower socio-economic status women may not have access to internet or smartphone technologies. Such a finding would not have emerged if community members had not been such strong partners in the research process. The results of our process suggest that CBPR and the engagement with community members and end-users can lead to effective intervention strategies.

Health promotion strategies tend to promote neo-liberal notions of individual responsibility for health, and thus neglect macro level determinants of health that are at play, and can reproduce colonialism (Czyzewski, 2011). Although the resource created through this work is for individual use, I aimed to target larger systemic issues as a broader goal of this research. I tried to ensure that this work addresses the Aboriginal social determinants of health to support the process of decolonization of dominant colonial healthcare structures by affirming the importance of Indigenous knowledges in health promotion. Through the creation of an online application that prioritizes the knowledge of women from the First Nations and Métis community in Ottawa, I have challenged the

presumed superiority of Eurocentric knowledge during pregnancy. Resources for First Nations and Métis community members that are created without the input of First Nations and Métis community members can run the risk of being underutilized, less effective, ignorant to the needs of the community, delivered in an inappropriate manner, may misrepresent community members, or may not resonate with the targeted population. As Anne succinctly noted, they may be met with, “[w]hat the hell is this?” In short, such resources can reproduce colonialism. Though creating a culturally safe and positively framed resource is time consuming and complicated, I stress the need for community-based partnerships in research to ensure relevant and useful resources are developed with/for community members in order to maximize efficacy and address health inequities.

### **Conclusions**

The development of this application was a community-based effort to address pregnant, urban First Nations and Métis women’s self-identified needs concerning physical activity and excess weight gain in pregnancy. The implications of these findings suggest that mobile technologies have wide-scale reach and should be considered as tools for addressing health inequities with marginalized populations, such as First Nations and Métis women in Canada. Due to changing communications strategies and the ability to support more difficult to reach populations, I suggest that efforts to improve maternity care and health outcomes for marginalized women should include further exploration, development, and evaluation of online resources/applications. I also recommend that further research should be undertaken to ensure that technology-enabled health interventions that target marginalized and difficult to reach populations are culturally safe.

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Chapter 7:  
Conclusions

The purpose of my doctoral research was to explore the factors that influence excessive weight-gain and physical inactivity during pregnancy in urban First Nations and Métis women. Further, through my work I aimed to understand how an obesity prevention and physical activity promotion resource for urban, pregnant First Nations and Métis women can be culturally safe. My research was framed by the following questions: 1) Are First Nations women marginalized through current physical activity pregnancy guidelines?; 2) How do pregnant First Nations and Métis women's understand weight-gain and physical activity during pregnancy?; 3) What are the factors that influence excessive weight-gain during pregnancy in urban, First Nations and Métis women?; 4) How can obesity prevention programs with pregnant First Nations and Métis women who live in urban centres be reflective of and sensitive to their cultural practices?

In this conclusion, I summarize the five papers that make up my dissertation and provide interpretations of my findings from each chapter. I then discuss the implications of my research and the contributions it makes to the broader literature. Finally, I make recommendations for future studies and present concluding thoughts on my research.

### **Summary of Papers**

In order to present the factors that were found to influence weight-gain and physical activity during pregnancy for First Nations and Métis women, I will first provide an overview of the five papers that make up my dissertation.

#### **Paper One**

In Chapter 2, I engaged with postcolonial feminist theory to examine *Active Living During Pregnancy: Physical Activity Guidelines for Mother and Baby* (Kochan-Vintinner, Wolfe, & Mottola, 2004) and the “Physical Activity Readiness Medical Examination”

(PARmed-X for Pregnancy) (Wolfe & Mottola, 2002) to answer research question 1: Are urban, First Nations women marginalized through current physical activity in pregnancy guidelines? Through an analysis of these resources, I demonstrated that they marginalize pregnant First Nations women in the following ways: They lack cultural consideration or representation of First Nations women; the recommendations and interventions rely on Euro-centric epistemologies and biomedical discourses; they rely on dominant neo-liberal notions of personal responsibility for health; and there are physical and financial barriers to accessing the resource. As such, I argued that guidelines and resources need to be reflective of First Nations women's needs. This work advances the use of postcolonial feminism in the fields of physical activity and obesity research.

### **Paper Two**

In Chapter 3 of my dissertation, I stressed the importance of participatory approaches in health research. This paper provided the basis for my empirical research to address health outcomes for First Nations and Métis women. Despite the fact that the use of community-based participatory research (CBPR) is growing and has become understood as a methodology that can lead to more equitable relations of power between Aboriginal community members and researchers (Teufel-Shone, Siyuja, Watahomigie, & Irwin, 2006), I argued it is not a panacea. In this paper I posited that CBPR as a methodology can be strengthened with the utilization of a postcolonial feminist theoretical approach, which better enables the examination of power issues when conducting health research with Aboriginal populations. This paper provided a useful framework by linking postcolonial feminist theory and CBPR to maximize the outputs and insights of research so that it may have a stronger influence on social change in the community. It further demonstrated that

CBPR, when paired with postcolonial feminist theory, has decolonizing potential. When used together, CBPR and postcolonial feminist theory encourage the team conducting the research to focus on the experiences, knowledges, and voices of marginalized peoples.

By focusing on the needs and opinions of marginalized populations my work shows how a CBPR approach that employs postcolonial feminist theory can result in improved research outcomes that may enhance the health of the population involved in the intervention. These findings resulted in the strong justification of my use of postcolonial feminist theory in concert with CBPR to form the theoretical and methodological framework that guided the subsequent papers in this dissertation.

### **Paper Three**

In Chapter 4 of my dissertation, I aimed to understand the factors that influence excessive weight-gain during pregnancy in urban, First Nations women, I delved into the findings from my 15 semi-structured interviews with health/service providers to examine their perspectives of barriers to healthy weight-gain and physical activity for urban, pregnant First Nations women in Ottawa. By employing a postcolonial feminist lens and a social determinants of health framework, I identified three social determinants of health that the health/service providers argued have the greatest influence on their clients' weight-gain and physical activity during pregnancy: Poverty, education, and colonialism. Based on the results, I stressed the importance of creating strategies that target physical inactivity and excessive weight-gain for urban First Nations women during pregnancy. More specifically, I also argued that it is crucial that comprehensive strategies are put into place that address the circumstances that contribute to this physical inactivity and excessive weight-gain. An additional finding was that both Aboriginal and non-Aboriginal health/service providers are

in positions to challenge colonial relations of power by recognizing barriers that exist on micro and macro levels, specifically by recognizing the systemic and structural barriers that impact the women they serve. As such, in this paper I argued that health/service providers, researchers, and policymakers alike need to take into consideration and act on the ways in which the social determinants of health impact urban First Nations women during pregnancy.

The empirical research in this chapter answers a call in the field of health sciences for further understanding of the perspectives of those individuals that may exercise strong influence on pregnant Aboriginal women (Oster, 2013) – such as health/service providers. This work provides new insights into a broad range of providers’ understandings of barriers to healthy weight-gain and physical activity during pregnancy and contributes to the understanding of roles that practitioners may play in influencing the health of patients/participants. Analyzing health/service providers’ understandings through a postcolonial feminist framework provides unique perspectives on the social determinants of health. Reimer-Kirkham, Baumbusch, Schultz, and Anderson (2007) suggested that from a postcolonial feminist perspective, the inclusion of the social determinants of health “is particularly urgent in the area of culture and health” (p. 32). This paper also contributes to the theoretical advancement of postcolonial feminist theory through the use of a multi-pronged approach that was informed by postcolonial feminist theory and the social determinants of health framework, with a particular focus on culture. Further, this work contributes to the much needed empirical research in the area of urban Aboriginal peoples’ health (Wilson & Cardwell, 2012).

**Paper Four**

In Chapter 5 of this dissertation, I utilized a postcolonial feminist lens and critical discourse analysis of focus groups and semi-structured interviews with 25 urban First Nations and Métis<sup>i</sup> pregnant or postpartum women to identify the discourses that influenced their weight-gain and physical activity. This paper addressed aspects of two of my research questions: How do pregnant First Nations and Métis women's understand weight-gain and body size change during pregnancy?; and what are the factors that influence excessive weight-gain during pregnancy in urban First Nations and Métis women? Three prominent discourses emerged: First Nations and Métis women have different pregnancies than non-First Nations and Métis women because the women gain more weight and are more likely to develop gestational diabetes; First Nations and Métis women feel personally responsible for and shameful about excessive weight-gain; and, finally, First Nations and Métis culture must be included in pregnancy-related health messages. Based on these findings, I argued that there is a lack of accessible and culturally safe resources concerning physical activity and weight-gain for pregnant, urban First Nations and Métis women. As such, I recommended the development of resources that are created for/by/with First Nations and Métis women.

This paper addressed calls in the fields of sociology, health sciences, and women's studies to further understand weight-gain in pregnancy from the perspectives of women who experience marginalization (Brubaker, 2007; Harper & Rail, 2011; Jette & Rail, 2013). My recommendations align with Vallianatos et al. (2006) who suggested that interventions for First Nations women to prevent pregavid obesity and excessive weight-gain in pregnancy must be developed to improve maternal fetal outcomes. I further argued

that that culturally tailored interventions must be developed to effectively support First Nations and Métis women. This study provides important insight into marginalized women's perspectives on pregnancy, weight-gain, and healthy living.

### **Paper Five**

Chapter six presents the final paper of my dissertation. In this paper I aspired to answer how obesity prevention programs with pregnant First Nations and Métis women who live in urban centres can be reflective of and sensitive to First Nations' and Métis cultural practices. As such, it focused on the process of translating knowledge from CBPR about culturally safe approaches for overweight/obesity prevention during pregnancy. I presented the process I engaged in to develop an online application (“app”) for pregnant, urban First Nations' and Métis women. This application was developed to support First Nations and Métis women in being physically active and preventing excessive weight-gain during pregnancy. The resource is the first of its kind developed for/by/with First Nations and Métis women. Additionally, I honoured tenets of postcolonial feminism and cultural safety in the development of the application. Cultural safety has been explored extensively in the field of nursing (Anderson et al., 2003; Papps & Ramsden, 1996; Smye & Browne, 2002); however, this research provides a novel contribution by applying cultural safety to the fields of physical activity, obesity research, and health resource development. Specifically, I drew on postcolonial feminist theory, CBPR, and cultural safety to develop a culturally safe resource for urban, pregnant First Nations and Métis women – something that has not previously been demonstrated in the academic literature. I revealed that through patient, collaborative, and community-driven development, culturally safe resources can be co-created for/by/with urban, pregnant First Nations and Métis women.

My work in this chapter demonstrated the “action,” or community-driven change, component of CBPR. I illustrated that CBPR findings can and should be used to create social change that attempts to improve the quality of life of research participants, a process that is both feasible and useful. While addressing health disparities between First Nations and Métis and non-Aboriginal women, I also demonstrated how CBPR can provide mutual benefits to the researcher (obtaining a PhD, and publications) and community members (learning research skills, being paid for their expertise, and co-creating a resource that meets their needs). This research addresses the gaps identified by Guillory et al. (2014):

Women from socially disadvantaged groups (e.g., single mothers, low-income women, women from medically underserved racial/ethnic groups) may particularly benefit from pregnancy related information online, but no study has examined whether these women are in fact seeking this information online. (p. 2219)

Through my research I found that First Nations and Métis women are indeed seeking information online; unfortunately, the existing information found online does not meet their needs. Moreover, in this paper I answered a call for strategies of knowledge translation with Aboriginal communities (Estey, Kmetic, & Reading, 2008). As Estey et al. (2008) have argued, knowledge translation (translating knowledge into action) is a term commonly used in mainstream literatures; however, it is less commonly used in an Aboriginal context. In line with their recommendations, the development of the application for pregnant, urban First Nations and Métis women included multiple perspectives, epistemologies, and considerations of the social and political contexts that inform knowledge translation with First Nations and Métis women. In addition, this research and the application developed for, by, and with First Nations and Métis women also respond to the call from King, Smith,

and Gracey's (2009) *Key Strategies to improve Indigenous Health*. Specifically, King et al. (2009) addressed the strategic goal to improve the health of Indigenous women and children through the "[e]ncouragement of healthy lifestyles... and health and nutrition education for pregnancy" (p.73). The resulting paper and application move away from a neo-liberal approach to health promotion and towards a community-based, positively framed, and culturally safe approach to health intervention with and for Aboriginal women.

### **Research Implications**

In the following section, I examine the implications of my work and the contributions that they make to the field. In particular, I identify the theoretical implications of my findings; the ways in which my findings contribute to the nascent literature on urban First Nations and Métis women; I identify a problematic trend of self-blame for weight gain; and I argue for the necessity of qualitative research with First Nations and Métis women.

### **Theoretical Implications**

Postcolonial feminism has been critiqued as being overly academic, inaccessible, and not particularly applicable in CBPR (Lewis & Mills, 2003). My research challenged these notions by fusing a postcolonial feminist theoretical framework and CBPR, which culminated in the development of the online application by/for/with community members. I was able to utilize postcolonial feminist theory from the conception of my research through to the finalization of the resource (the app) by examining the intersections of the social determinants that influence health, all of which helped to frame the resource. This theoretical framework has played a particularly important role throughout this work and I

would emphasize that such a framework is essential when working with/for women who are marginalized.

First Nations and Métis women experience marginalization during pregnancy. An examination of power relations is central to postcolonial feminist theory and is examined and demonstrated through the process of othering. Othering, as a postcolonial feminist term, reinforces dominance of one over another (Mohanty, 1991; Spivak, 1990). Practices of othering Aboriginal women have been demonstrated extensively in the healthcare literature, especially nursing (Anderson, 2000; Browne, Smye, & Varoce, 2005; Reimer Kirkham & Anderson, 2002). My research findings align with these scholars' results in that my research participants reported often feeling marginalized in health and service provider settings. My work further unveils the marginalization that exists not only in healthcare setting, but importantly also in the resources provided (or not provided) to pregnant First Nations and Métis women. In chapter two, I found that First Nations and Métis women are not represented in physical activity resources. This finding was used to further understand how the participants felt about existing resources and representation of First Nations and Métis in resources and in healthcare. I found that there was limited use of a postcolonial feminist framework to explain how Aboriginal women experience marginalization in physical activity and obesity prevention resources, despite the disproportionate burden of overweight/obesity of Aboriginal women compared to non-Aboriginal women. A postcolonial feminist framework made important contributions by focusing on a number of factors that impact women's health and thus I believe I have displayed the potential of postcolonial feminism for broader use, especially in CBPR.

Prior to my research, a postcolonial feminist theoretical lens with a social determinants of health framework and in combination with tenets of cultural safety had not been used simultaneously in the academic literature. My research contributes to the advancement of postcolonial feminist theory and the social determinants of health by providing a more holistic and nuanced perspective on urban First Nations and Métis women's health that resulted in an intervention that is deemed safe by the women themselves. The development of the online application is demonstrative of the strategies involved in creating a culturally safe resource that is informed by postcolonial feminist theory and the social determinants of health. Postcolonial feminist theory informed the knowledge translation component of the research and ensured that First Nations and Métis women's knowledge was central to the development of the app. The app is inclusive of evidence-based practices and local knowledges.

### **Nascent Literature on Urban First Nations and Métis Women**

My research contributes to literature on the health of urban Aboriginal populations. Currently, there is insufficient knowledge regarding the complexities of urban Aboriginal peoples health (Snyder & Wilson, 2015, p. 181). Throughout the chapters, I have demonstrated the complex interactions of determinants of health that impact urban First Nations and Métis women in Ottawa. Through concrete examples of both micro and macro determinants of health that are at play, and from the perspectives of both women and health/service providers, this work contributes to more nuanced understanding of social determinants of healthy pregnancies for urban First Nations and Métis women. The novel use of CBPR with a postcolonial feminist approach to examine the social determinants of urban First Nations and Métis women's health revealed a complex nexus of issues that

were identified as being rooted in residual impacts of colonialism. The participants identified a number of factors that influenced their ability to experience a healthy pregnancy, many in line with mainstream literature, such as a lack of time, energy, and childcare (Evenson, Moos, Carrier, & Siega-Riz, 2009); however, where the results differ is the impact of being First Nations and Métis. The social determinants of health, particularly, culture, race, and colonialism, influenced the way women were treated during their pregnancy and their own experiences of pregnancy.

### **Problematic Trend of Self-Blame**

My research also identified a trend of self-blame for weight-gain and physical inactivity in pregnant and postpartum urban First Nations and Métis women. In some cases, the women who participated in the research neglected to recognize the roles that the social determinants of health play in their health. This led to the reproduction of discourses around First Nations and Métis women choosing to be lazy and the shaming of not only themselves, but also other community members. I demonstrated that individual choices are constrained by determinants of health that disproportionately impact First Nations and Métis women, such as poverty, food insecurity, and education. Additionally, a postcolonial feminist lens helped me to understand how social determinants of health such as race, class, gender, power, privilege, and colonialism work synergistically to shape women's experiences. Postcolonial feminists have argued against the homogenizing and universalizing of women and their experiences (Mohanty, 1991; Spivak, 1990); my work demonstrates the ways in which First Nations and Métis women's experiences and understandings of excessive weight-gain and physical activity in pregnancy converge and diverge. Some participants recognized the larger determinants of health a play, while others

embraced discourses of personal choice. These findings, which were obtained through qualitative research, recognize the heterogeneity of experiences for First Nations and Métis pregnancy for women.

### **The Necessity for Qualitative Research**

I contend that my research provided much needed insights into the complex factors that impact urban First Nations and Métis women's lives that statistics and epidemiological data or profiles are unable to capture. Obesity and physical activity researchers often rely on quantitative data and epidemiological methodologies. My qualitative, community-based research provided another perspective and different conceptualization of evidence on physical activity and weight-gain in pregnancy for First Nations and Métis women.

Reimer-Kirkham, Baumbusch, Schultz, and Anderson (2007) argued,

traditional notions of evidence, based in Western science, may not sufficiently address the types of deep rooted factors underlying health disparities such as poverty and material life circumstances, nor fully account for the complexities of people's everyday lives that ultimately shape health and illness to a significant extent. (p. 27)

I concur with this statement and believe that qualitative research was the most relevant strategy to reveal the multifaceted ways in which First Nations and Métis women experience weight-gain and physical activity in pregnancy.

Further, the gold standard in obesity research, and the research world in general, is randomized control trials (RCTs) (Glanville, Lefebvre, Miles, & Camosso-Stefinovic, 2006). Reimer-Kirkham et al. (2007) have noted that researchers have "traditionally conducted RCTs with the most accessible dominant majority populations. Yet, the findings of such studies have routinely been generalized as though they represent a universal

experience” (p. 31). To my knowledge there have been no RCTs conducted explicitly with pregnant, First Nations and Métis women. Therefore, the findings of some RCTs may not be applicable to this population. Moreover, the overall findings of my research suggest that First Nations and Métis women experience marginalization in healthcare settings and through existing resources. Thus, if healthcare providers and health promotion initiatives continue to target this population with interventions that have limited applicability, and without input from the community, I argue that health disparities will continue to grow between First Nations and Métis and non-First Nations and Métis populations.

I also argue that my research supports the use of CBPR methodologies for doctoral research projects. Academic systems, particularly those that dictate the processes of doctoral research, do not lend themselves to conducting CBPR (Herr & Anderson, 2005) because of the time required to engage effectively with communities, the need for additional community deliverables, and the focus on practice rather than theory (Khobzi & Flicker, 2010). As Khobzi and Flicker (2010) noted, doctoral students conducting CBPR balance the roles of student, research facilitator, advocate, and social movement member.

As an advocate for the community, I constantly sought funding to support community members, programs, participants, and research facilitators. As an example, I obtained funding from the Canadian Association for the Advancement of Women in Sport and Physical Activity (CAAWS) to provide free childcare during physical activity programming at the Odawa Native Friendship Centre. This was an important step in my research to develop relationships with both the Friendship Centre staff and women in the community. Moreover, I had to be creative in the development of community and academic partnerships in order to meet the requests of community members. I successfully appealed

to CAAWS for further financial support to cover the training expenses for two Odawa Native Friendship Centre members to become certified CanFit Pro trainers through the Aboriginal Warriors program. I also received funding to support additional training for one participant to receive training as a prenatal instructor during the National Aboriginal Physical Activity Conference at Queen's University in Kingston, Ontario. As I found through the interviews and focus groups, having locally trained community members can be an effective way to initiate community-driven change. Further, applying for funding supported community-based efforts for health promotion and improving health outcomes, which was one of the goals of this research and CBPR as a whole (Israel, Schulz, Parker, & Becker, 1998).

With regard to conducting my research, I pursued a number of funding and partnership opportunities to support my work. As Israel et al. (1998) argued, community based researchers face barriers to obtaining funding through the typical academic system; therefore, I had to explore other options. One opportunity I successfully sought was through the Ontario Public Interest Research Group (OPIRG) to provide honoraria, food, and childcare for the participants who attended focus groups and interviews. I believe this allowed me to interview a more diverse group of First Nations and Métis women, as it enabled some women to attend who otherwise would have lacked the resources to do so. I also applied for, and received, funding from the Canadian Institute of Health Research's Institute of Gender and Health Trainee Knowledge Translation Supplement. This \$5000 supplement provided the financial resources needed to create the online application and to fund First Nations and Métis experts in the Ottawa community to work on resource development. Financially supporting community members' contributions was a way to

build on strengths and resources in the community as well as integrate local knowledge in the resource, both important tenets of CBPR (Israel, Eng, Schulz, & Parker, 2005). I also forged a partnership with Dr. Liam Peyton, Professor and Associate Director of Software Engineering at the University of Ottawa, and his graduate students. They generously developed the app free of charge, while the community members developed its content. Moreover, the National Aboriginal Council of Midwives became partners in developing the app's content and have committed to promoting the app to their clientele. While CBPR is challenging, I showed that it was possible to address community partners' needs through creatively seeking opportunities and forging strategic partnerships.

Despite these successes, I nevertheless experienced a number of issues that delayed and challenged my research. As the academic literature suggests, engaging in CBPR is long process (Horowitz, Robinson, & Seifer, 2009; Israel et al., 2005; Israel et al., 2006) that is all the more difficult when trying to conduct it within specified funding timeframes. The following factors delayed my research: the closing of the Odawa Native Friendship Centre due to a sale of the building, its re-opening at a new location, which was followed by flooding at the new location, which led to the new building being shut down. In addition, the Healthy Living Director, my main contact, went on an extended paternity leave. There were further changes in staffing, including the executive director resigning and the hiring of a new director. Unfortunately, due to funding cuts and changes in staff, there was a lack of consistency in the delivery of programs, including the childcare that was funded for the physical activity programs. Ultimately, CBPR can present a number of challenges, specifically for PhD students' (Khobzi & Flicker, 2010); however, there are creative ways to overcome such difficulties. I found that, overall, the rewards of this methodological

approach were much bigger than the challenges. In the next section of my conclusion, I will address limitations of my work.

### **Limitations of the Work**

Through my research, I made concerted efforts to carefully co-develop research questions and to select the most appropriate methods and methodologies in concert with my dissertation committee members and community advisory board members. Despite these measures, I recognize that there are some methodological and practical limitations to my work.

#### **Methodological Limitations**

The main two methodological limitations are potential researcher bias and the sampling of my population. As with all research, the findings of this work are influenced by the researcher's personal biases and experiences. As Smith (1999) stated, the "researcher has the power to distort findings based on assumptions...extend knowledge or perpetuate ignorance" (p. 176). Cannella and Manuelito (2008) posited, "we all always run the risk of privileging particular perspectives and marginalizing, essentializing, or even erasing others, even as we attempt to join together reciprocally across differences" (p. 46). My hope is that the involvement of members of the community advisory board throughout each phase of the research aided in limiting researcher bias by ensuring that my interpretations of the findings resonated with the members' experiences and understandings of their community. Nevertheless, my presence as non-Indigenous researcher in the focus groups could have had an impact on the participants' responses and discussion. To limit this possible impact, I hired a First Nations community member who is a mother of two to conduct all of the focus groups. The aim was to have a fellow community member guide

the focus group in order to have a culturally relevant dialogue and to address concerns of trust from participants. Having a local and known community member conduct the focus group may have helped ensure local issues were focused on and addressed.

Another way of reducing the researcher's impact on the research is to include participants in the analysis of data. While I offered this opportunity to all participants, due to time their commitments and busy lives, their involvement in the data analysis proved to be impossible. As Guta, Flicker, and Roche (2012) noted "the lay researcher is complex and has many competing demands" (p. 447). This certainly describes my community partners; it was difficult for them to prioritize data analysis with all of the other life demands with which they were dealing.

There are also possible limitations with the recruitment of the study's participants. My research participants were recruited from the Odawa Native Friendship Centre through posters and e-mails. In addition, snowball sampling (Creswell, 2013) was utilized to recruit women and health/service providers for both interviews and focus groups. Therefore, this non-probability sample (Kalton, 1983) may have produced bias in the research population. Participants recruit friends that may typically have similar experiences to their own. Despite being a common problem in qualitative research (Creswell, 2013), it is still nonetheless a limitation. Other women and health/service providers from the community who were uninterested in taking part in the interviews or focus group may hold different views on physical activity and weight-gain during pregnancy that I was unable to capture, despite my best efforts.

**Practical Limitations**

There are four practical limitations to my research: Limited focus on diet and nutrition; lack of family involvement in the research; reliance on statistical data that have limitations; and the binary presented of “us versus them.” There was limited focus on diet and nutrition as influencing weight-gain during pregnancy. I feel this lack of focus on diet and nutrition is the most significant limitation of my dissertation. As this research is community-based, I followed the lead of the participants. Participants made comments with regard to diet and most of the women recognized the value of eating well; however, I found that the limited discussion pertaining to diet did not warrant a full paper. One possibility is that the dietary concerns of First Nations and Métis women are already being met in the Ottawa community. For example, I worked with a dietician from another Aboriginal Centre in Ottawa; she was an experienced and well-utilized dietician in the community. This may be why the community members chose to focus on the physical activity component rather than on nutrition. Regardless of the findings and lack of discussion concerning nutrition, I nevertheless hired a First Nations dietician to develop nutritional content for the “Celebrate Creation” app. The nutrition component is of utmost importance in the app. In a review of published data on interventions to reduce gestational weight gain, the authors found that successful interventions for prevention of excessive weight gain in pregnancy are based on increasing physical activity and dietary counselling (Streuling, Beyerlein, & von Kries, 2010), so I did my best to address both within the app.

Another limitation of my dissertation research is its focus on pregnant women and mothers, rather than entire families. Pregnancy, specifically in an Aboriginal context, is a holistic process that often involves family members (Halseth, 2013; NCCAH, 2012). My

interviews and focus groups involved only pregnant and postpartum women, mothers, and health/service providers. I consciously decided to exclude family members, particularly fathers, from the interviews. I recognize that it is important to seek input from fathers and other family members to provide an even more nuanced understanding of factors that contribute to physical activity and weight-gain in pregnancy. Nevertheless, I opted to only focus on pregnant women and mothers because of the high percentage of First Nations and Métis women who are lone parents (Statistics Canada, 2011). Thus, inclusion of fathers could have been detrimental to recruitment of participants.

An additional limitation for my dissertation is that I relied on statistics presented by Statistics Canada and other epidemiological data sources (NCCAH, 2013; NCCAH, nd; Statistics Canada, 2005; Statistics Canada, 2011) concerning disparities in health between Aboriginal versus non-Aboriginal peoples. However, it must be acknowledged that there are limitations to the data that are presented on Aboriginal populations and health outcomes (Smylie, 2010). Smylie and Anderson (2006) identified that “the major challenge is a lack of accurate identification that respectfully, systematically, comprehensively and consistently recognizes self-identified First Nations, Métis or Inuit ethnicity” (p. 603). Furthermore, data on Aboriginal peoples’ health are often not contextualized within a larger determinants of health framework, which can result in the presentation of Aboriginal people as inherently and pathologically ill. In line with recommendations from Morrow, Hankivsky, and Varcoe (2007), who noted that “it becomes critical to avoid decontextualized discussions of health statistics. Instead statistics must be framed in terms of their intersecting social, historical, and economic determinants” (p. 21); this was

something I attempted to challenge throughout my own research. I drew on statistics from the literature, but contextualized them within the qualitative findings of my research.

The use of statistical data also forces (typically non-Aboriginal) researchers/academics to present health outcomes in a binary of “us” versus “them,” which can be seen throughout my work when I compared non-First Nations and Métis versus First Nations and Métis health outcomes. Despite the fact that this is a logical comparison for the demonstration of disparities, the application of a critical theoretical perspective such as postcolonial feminist theory points to the obvious issue of othering Aboriginal women through this dichotomy. I justify using this dichotomous approach in order to identify health disparities between First Nations and Métis women and non-First Nations and Métis peoples and worked hard to situate these disparities within the determinants of health. I also tried to counter this deficit-based approach by using an assets-based approach in the development of the intervention, the app. By drawing on the strengths within the community, hiring community experts, and providing honoraria for all women who contributed to the content of the app, I aimed to minimize the binary often used in research to create a positive community resource.

### **Recommendations**

My research has led me to identify a number of recommendations for addressing health inequities experienced by pregnant First Nations and Métis women. They fall into three categories: Actionable recommendations, policy recommendations, and recommendations for future research.

**Actionable Recommendations**

I have identified three actionable recommendations based on the findings from my research: Researchers must consider the contexts in which people live; culturally safe practices should be adopted by research and health promotion practitioners; and improved community collaboration is necessary to meet the needs of urban First Nations and Métis women.

Research design and outcomes should be considered within the contexts of peoples' lives. Canada is (or perhaps was) looked upon as a leader in health policy, research, and promotion (Raphael, Curry-Stevens, & Bryant, 2008); unfortunately, neo-liberal notions of personal responsibility and behaviour change are still emphasized as strategies to improve the health of Canadians rather than considerations of broader structural determinants (Raphael, 2003). I suggest that multidisciplinary partnerships and approaches to both research and interventions are necessary to effectively address excessive weight-gain and physical inactivity during pregnancy for urban First Nations and Métis women. As Reimer-Kirkham et al. (2007) wisely advised, there is a need to "caution against segregating science from humanities and social sciences in our knowledge generation and application" (p. 31). Further, the World Health Organization (2004) advocated "curbing the global obesity epidemic requires a population-based, multi-sectorial, multi-disciplinary, and culturally relevant approach" (para. 1). Researchers and practitioners need to be aware that populations are made up of individuals who do not share identical ways of thinking or being in the world due to the vastly different contexts in which we all live. If we are to obtain a deeper understanding of how and why physical inactivity and obesity persist among First Nation and Métis women, weight-gain and physical activity during pregnancy

must be seen and studied as existing within particular cultural, political, and historical contexts.

Improved health outcomes may also be achieved through the development of culturally safe (Brascoupe & Waters, 2009) research practices, resources, programs, and interventions. Researchers and health/service providers must be educated about neo-colonial practices that shape the care/information that pregnant First Nations and Métis women receive. It is essential to ensure that stereotypes are not reinforced or constructed by health/service providers as cultural characteristics, when they are instead life circumstances that are influenced by social and historical contexts. Therefore, I would recommend that more attention and resources be focused on educating health/service providers on the importance of cultural safety, not only in the delivery of care, but in the development of culturally safe research, resources, programs, and interventions.

Practitioners must also be careful not to homogenize First Nations and Métis populations. Specifically, obesity and physical activity practitioners and programmers need to consider cultural differences between First Nations and Métis peoples in resource development, such as I did in my work. I further contend that First Nations and Métis peoples should be included/consulted in all aspects of research or resource development, from design, implementation, analysis, and evaluation if research or resources are going to be successful in meeting their needs. The inclusion of participants or end users is essential in order to ensure First Nations and Métis epistemologies and knowledges are central to research and interventions.

Culturally safe research and care may address issues of shame and blame that exist within healthcare and research, as well as within the First Nations and Métis community.

During my research/writing of this dissertation, a peaceful revolution emerged: Idle No More. This revolution demonstrated the power, strength, and resiliency of Aboriginal communities in Canada. The Idle No More manifesto stated, “we believe in healthy, just, equitable and sustainable communities and have a vision and plan of how to build them” (Idle No More, para 2, nd). This demonstrates that community cohesion, building, and regeneration is happening in Aboriginal communities. In conversations with participants throughout my research, it was clear that the women were paying attention to and actively involved in this movement. This movement challenges systems of oppression and aims for decolonization and empowerment of community members (Thomas-Muller, 2013). I would argue that these factors indirectly promote cultural safety for Aboriginal peoples. Of particular importance in the Idle No More movement is to challenge internalized oppression (Thomas-Muller, 2013), which I hope will diminish the shame and blame that exists among the participants in my research. Challenging the internalized oppression may positively impact the health of First Nations and Métis women.

In order to improve pregnancy support and outcomes for urban First Nations and Métis women, there needs to be more cohesive community collaboration. Despite Ottawa housing a number of Aboriginal organizations, a common theme that was mentioned by the participants was the lack of consistency with community support and services during pregnancy. Although I recognize that systemic barriers exist, such as competition for scarce funding dollars, I would nonetheless recommend that Aboriginal organizations work together to provide strong, consistent, and culturally safe programming for mothers and pregnant women. I would also urge organizations to offer barrier free physical activity programs to pregnant and postpartum women, which currently do not exist in Ottawa. By

offering bus vouchers, childcare for the duration of the program, and other ways to overcome barriers, urban First Nations and Métis women would be better able to attend programs and to be active during pregnancy. I also suggest tapping into existing programs such as the Aboriginal Warriors program (a culturally relevant Can Fit Pro certification) in order to train community members using a “train the trainer” strategy to enhance community capacity. I further recommend shifting the focus from a deficit-based approach to the inherent resources in the community to improve overall health and well-being of pregnant, First Nations and Métis women to create the greatest impact. In the next section I make suggestions for possible policy recommendations.

### **Policy Recommendations**

There are three main policy recommendations that I feel would support urban First Nations and Métis women: restoration of funding to Aboriginal health; ensure that policy makers address the social determinants of health; finally, the removal of barriers to encourage more First Nations and Métis peoples in the healthcare profession.

Federal government officials must restore pre-Harper funding to Aboriginal health (NCCAH, 2012a). Increased financial resources will allow community and healthcare centres to provide accessible and relevant programming to pregnant First Nations and Métis women. Through my research, it became evident that there is a lack of human and financial resources to meet the needs of the community. Due to financial constraints, there are currently no physical activity programs for pregnant or postpartum First Nations and Métis women in Ottawa. Funding to Aboriginal health organizations would support the development of physical activity programming for this population.

Despite the disproportionate burden of poor health outcomes in pregnancy for First Nations and Métis women in Canada, there is little evidence to show that effective interventions have been developed. I urge policy makers to create policies that address the social determinants of health. It is essential to avoid band-aid approaches and to attend to the intersections of determinants that impact the health of First Nations and Métis women. This will require long-term commitment, financial support, and development of partnerships to concurrently address the various factors that impact First Nations and Métis women's health.

One such strategy to improve the health of First Nations and Métis women is the removal of barriers to encourage more First Nations and Métis peoples in healthcare and research positions. The health and service providers that I interviewed had a great understanding of the needs within the community (13 of the 15 were First Nations or Métis). I posited that the insights of the providers were particularly valuable because of the ability to situate First Nations and Métis cultures and histories and creating self-reliance within the community. Therefore, ensuring that more First Nations and Métis peoples are in healthcare and research positions may further address health inequities in the population. Policy recommendations can be implemented across a number of levels to improve the health and pregnancies of First Nations and Métis women. However, policies must be evidence-based to gain traction in the political realm. Therefore, in the next section, I make recommendations for future research.

### **Recommendations for Future Research**

Evaluation and assessment of existing community developed research, resources, and interventions will inform future research. Building specifically on my work, it will be

essential to evaluate the Celebrate Creation resource that was developed with/for the urban First Nation and Métis community. Determining the uptake and efficacy of this resource will be useful in order to decide if future iterations, specific to other Aboriginal communities in Canada, would be useful. Moreover, assessing the effectiveness of community-developed obesity interventions versus externally determined interventions, may inform more effective strategies. I would suggest a systematic or scoping review of obesity interventions explicitly created for marginalized populations. Based on existing obesity interventions with marginalized populations, I recommend building on identified effective approaches and developing new community-based strategies in order to develop culturally competent and culturally safe lifestyle interventions in pregnancy.

I also suggest further research is needed in the area of cultural safety and online application development. The popularity of online resources warrants review of existing online apps. Moreover, applying cultural safety in the area of resource development, specifically, online applications will be essential as apps have the potential to reach larger populations, and more importantly, to connect with more difficult to reach marginalized peoples.

I urge that a CBPR approach to a randomized control trial be created by/with/for First Nations and Métis women to determine if a lifestyle intervention can prevent excessive weight gain and promote physical activity in pregnancy. Such an RCT must consider a wide range of factors that influence health outcomes. Further data on Aboriginal women and intervention outcomes are necessary in order to determine the most effective ways to prevent excessive weight-gain and encourage physical activity in pregnancy to improve maternal and fetal outcomes.

Finally, I call for research that examines rural or on-reserve pregnant Aboriginal women's experiences of weight-gain and physical activity in pregnancy. Such research would provide valuable information on the access, barriers, and enablers to physical activity and healthy weight-gain in pregnancy. I believe that weight-gain and physical activity patterns of rural and reserve population will differ from urban First Nations and Métis experiences.

### **Final Concluding Thoughts**

As a postcolonial feminist theorist, I feel compelled to share how my research with pregnant and mothering First Nations and Métis women has shaped my thinking. Prior to embarking on this PhD journey, I worked in a largely quantitative behavioural intervention based setting. I prescribed the exact weight women should gain in RCTs and could not understand why women could not just gain weight within recommended guidelines, eat only healthy foods, and exercise. That is, until I became pregnant in the third year of my PhD! I gained well over the recommended guidelines (that are designed with people like me in mind). Despite eating well and exercising daily, I felt shame and blame around having the knowledge and resources to be healthy, and yet still failing to fall within healthy range of weight-gain. Further, I feared that I was harming my baby. This experience reinforced to me the importance of providing a barrier-free approach to research and supporting women during pregnancy with positively framed resources, rather than judgmental resources and punitive approaches. Pregnancy is a time period in which women are closely monitored; if women are constantly feeling bombarded with everything they are doing wrong, it can be extremely stressful. I found that women wanted a resource that was positive and empowering.

My experience as a project director running RCTs on weight-gain in pregnancy led to my interest in the larger factors at play in women's lives that are often overlooked or deemed too complex to examine. It was through my research in the USA that I became interested in wanting to understand the factors that shaped women's lives long before they became pregnant, thus committing myself to research concerning the social determinants of health. I quickly realized that in order to gain a more in-depth understanding of issues facing First Nations and Métis women, I would have to conduct qualitative research and focus on First Nations and Métis determinants of health. Little did I know that my research would greatly shift my initial research plans – not to mention my entire view of pregnancy.

In many ways, I benefitted greatly from the support, knowledge, and experience of the participants in this study throughout my own pregnancy. Participants often talked about returning to their culture in pregnancy as a form of empowerment, to ground themselves, to know where they came from, and to learn about resilience in order to share these teachings as a mother. Marker (2003) stated “to really learn about Indigenous communities it to learn about oneself...An authentic listening to the cultural ‘Other’ should produce more than a fascination with the exotic: It should provoke an awakening to the cultural ‘Self’” (p. 35). I realized that I had spent over four years learning about the cultures and experiences of First Nations and Métis peoples in Canada without truly exploring my own history. During my pregnancy, I returned to my family to ask about my own history in order to reflect on how my life experiences as a Scottish immigrant to Canada have shaped my life and health. Upon discussion and reflection, I realized my family survives and thrives on laughter. Humour is certainly a Scottish form of resilience and has helped me through the first year

of motherhood! Insights from participants supported me in my pregnancy, and also informed plans to support pregnant women in the First Nations and Métis community.

The participants in my study were well poised to contribute to the development of the app. The women I worked with were well informed and open to strategizing to address pregnancy issues affecting their community. The participants discussed and planned the move towards decolonizing pregnancy, a process that informed the development of the online app, as well as my research papers. I feel my role was to act as the facilitator for this process by securing funds, running focus groups, and establishing partnerships to ensure the app came to fruition. However, the content of the app was solely developed by First Nations and Métis women in the Ottawa community. The women in this study provided insight, strategies, and their own personal knowledge to address the factors that impact physical activity and weight-gain in pregnancy for their community.

Most importantly, the outcomes of this research demonstrated that a culturally safe, community guided pregnancy resource was both desirable and feasible. My hope is that this work is one small step towards creating change with marginalized women. As Benoit and Shumka (2009) succinctly stated, “even the best evidence on the fundamental factors affecting women’s health will do little to change health inequities unless there is political will to carry through necessary policy recommendations, which must extend beyond the mainstream health sector” (p. 3). The barriers and challenges working towards equity are complex and require multi-level approaches addressed in parallel.

I would like to conclude with these wise words from the Royal Commission on Aboriginal Peoples (1996):

Just as social problems spring in part from collective experience, so solutions require change at the collective level. Aboriginal people acting alone cannot shift the weight of disadvantage and discrimination. But solutions that lift the weight for Aboriginal people collectively shift it for everyone.

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## Footnotes

<sup>1</sup> After completing the first phases of research that informed these chapters, the community advisory board and participants advised me to include Métis women, particularly in the development of the app.

**Appendix A: Community Advisory Board**

<b>Name</b>	<b>Title</b>	<b>Affiliation</b>
Isabelle Aube	First Nations Physical Activity Consultant	Aboriginal Community Warrior Program
Sheridon Baptiste/ Julie Davignon	Healthy Living Program Director Non-Aboriginal/ Interim Healthy Living Program Director First Nations	Odawa Native Friendship Centre
Natasha Batt	Odawa Member and First Nations Mother of two	Community Representative
Karen Lawford	First Nations Midwife	University of Ottawa
Jennifer Ferrante	Odawa Member First Nations Mother of two	Community Representative
Cindy Gaudet	Métis Facilitator	University of Ottawa
Jessika Quigley	First Nations Dietitian	Wabano Centre for Aboriginal Health

**Appendix B: Interview Guide for Health/Service Providers**

How do you perceive obesity/weight gain in pregnancy for First Nations women?

How would you describe First Nations women concerns regarding wellbeing related specifically to weight gain during pregnancy?

What steps are currently taken to address cultural considerations in First Nations women's regarding weight-gain during pregnancy in your profession?

Is cultural appropriateness, cultural competence, and/or cultural safety important in your work?

How is cultural safety addressed in the work you do?

In your professional role, what do you think pregnant First Nations women identify as strengths/weaknesses with the current available recommendations, resources, and interventions for prenatal weight-gain?

How can current prenatal programs/resources be tailored to be more reflective of and beneficial to urban, First Nations women's needs – thus culturally safe?

How can diabetes prevention programs be delivered more effectively during pregnancy to prevent excessive weight-gain and gestational diabetes?

Do you think there is concern in the First Nations community about obesity? Is weight-gain a concern for First Nations women in pregnancy?

What are the social/health priorities among the First Nations women you work that may interfere with their health?

As the WHO explains, the social determinants of health – include income and social status, social support networks, education and literacy, employment/working conditions, social environments, physical environments, personal health practices and coping skills, healthy child developments, biology and genetic endowment, health services, gender, and culture.

Are there any of these determinants that impact the women you work with more than others?

**Appendix C: Demographic Information Health/Service Providers**

Name: \_\_\_\_\_

Sex Male  Female 

Date of Birth and Age

Day\_\_\_\_ Month\_\_\_\_ Year \_\_\_\_ Age \_\_\_\_

Are you Aboriginal?  Yes  No First Nations Inuit Métis

What is the highest grade or year of school you completed?

 Never attended school or only attended kindergarten Grades 1 through 8 (Elementary) Grades 9 through 11 (Some high school) Grade 12 or GED (High school graduate) College 1 year to 3 years (Some university/college) University 4 years or more (University graduate) Graduate degree (post-university)

What is your occupation? \_\_\_\_\_

**Appendix D: Focus Group Guide for Pregnant/Postpartum Women**

Are you more concerned about your health now that you are pregnant?

How do you feel during this pregnancy? Do you have any concerns about your body?

Are you concerned about how much weight you gain during your pregnancy?

What factors do you think cause weight gain in pregnancy?

Do you have other concerns about your pregnancy?

Do you think there is concern in the First Nations and Métis community about obesity?

Have you been advised at all on physical activity during your pregnancy?

If so, do you use any of the available resources on physical activity in pregnancy?

Is there anything that makes it difficult for you to exercise in your pregnancy?

What do you think culturally relevant care is?

Do you feel that your health care providers (doctor, midwife, nurse, dietitian) take your  
First Nations or Métis culture into consideration?

Do you think that current prenatal programs/resources lack representation of First Nations  
and Métis women?

Do you think that there is a better way to help pregnant First Nations and Métis women to  
have healthier pregnancies?

What do you think about how the media portrays women's body sizes and weight-gain in  
pregnancy?

**Appendix E: Demographic Information for Pregnant Women**

Name: \_\_\_\_\_

Sex    Male     Female 

Date of Birth and Age: Day\_\_\_\_ Month\_\_\_\_ Year \_\_\_\_ Age \_\_\_\_

Marital Status

- Single
- Married
- Partner
- Divorced
- Widowed

Are you Aboriginal?  Yes  No

- First Nations
- Inuit
- Métis

What is the highest grade or year of school you completed?

- Never attended school or only attended kindergarten
- Grades 1 through 8 (Elementary)
- Grades 9 through 11 (Some high school)
- Grade 12 or GED (High school graduate)
- College 1 year to 3 years (Some university/college)
- University 4 years or more (University graduate)
- Graduate degree (post-university)

Employment – Are you currently...

- Employed for wages
- On maternity leave
- Self-employed
- Unemployed
- A homemaker
- A student
- Retired
- Unable to work

How many children have you given birth to? \_\_\_\_\_

When was your last child born? \_\_\_\_\_

How many people currently live in your household? \_\_\_\_\_

What is your height? \_\_\_\_\_ What is your current weight? \_\_\_\_\_

Just before you got pregnant with your new baby, how much did you weigh? \_\_\_\_\_

How much weight did you gain during your most recent pregnancy? \_\_\_\_\_

During your most recent pregnancy, were you told by a doctor, nurse or other health care worker that you had gestational diabetes (diabetes that started during this pregnancy)?

- Yes  
 No

Would you say that in general your health is:

- Excellent  
 Very good  
 Good  
 Fair  
 Poor

#### Physical Activity

During the *3 months before* you got pregnant with your new baby, how often did you participate in any physical activities or exercise for 30 minutes or more? (For example, walking for exercise, dancing, fitness classes, or gardening.)

- Less than 1 day per week  
 1 to 2 days per week  
 3 to 4 days per week  
 5 or more days per week  
 I was told by a doctor, nurse, or other health care worker not to exercise

During the *last 3 months* of your most recent pregnancy, how often did you participate in any physical activities or exercise for 30 minutes or more?

- Less than 1 day per week  
 1 to 2 days per week  
 3 to 4 days per week

- 5 or more days per week
- I was told by a doctor, nurse, or other health care worker not to exercise

Thinking back to *3 months before* you found out you were pregnant, did you exercise or play sports? (Include walking for 1/2 hour or more, jogging, aerobics, swimming, etc.)

- No
- Yes, How many days per week? \_\_\_\_\_

How many months of this pregnancy did you exercise or play sports at least 3 times a week?

\_\_\_\_\_ Number of months

What kind of exercise or sport did you do *most often* during your pregnancy?(Check one answer)

- Brisk walking
- Zumba
- Jogging or running
- Kettle bells
- Other dancing
- General exercise
- Biking
- Swimming or water exercise

Did a healthcare provider ever address how much weight should be gained during your pregnancy?

- No
- Yes\_ If so, how much? \_\_\_\_\_

Did you ever receive any nutritional counselling during your pregnancy?

- No
- Yes\_

Were you advised about physical activity in your pregnancy?

- No
- Yes\_

(Questions adopted from the CDC Behavioural Risk Factor Surveillance System; CDC PRAMS Questionnaire)

## Appendix F: Ethics

File Number: H02-12-05



Date (mm/dd/yyyy): 05/29/2014

**Université d'Ottawa** **University of Ottawa**  
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

### Ethics Approval Notice Health Sciences and Science REB

**Principal Investigator / Supervisor / Co-investigator(s) / Student(s)**

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Audrey	Giles	Health Sciences / Human Kinetics	Supervisor
Francine	Darroch	Health Sciences / Human Kinetics	Student Researcher

File Number: H02-12-05

Type of Project: Professor

Title: Gaining Insight: Understanding and Preventing Excessive Prenatal Weight Gain in Urban First Nations Women

<u>Renewal Date (mm/dd/yyyy)</u>	<u>Expiry Date (mm/dd/yyyy)</u>	<u>Approval Type</u>
06/21/2014	06/20/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A



# Université d'Ottawa University of Ottawa

Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

## Health Sciences and Science Research Ethics Board

### APPROVAL OF MODIFICATIONS

May 16, 2013

Andrey Giles  
School of Human Kinetics  
Faculty of Health Sciences  
University of Ottawa  
125, University  
Ottawa ON K1N 6N5

Francine Darroch

**RE: Gaining Insight: Understanding and preventing excessive prenatal weight Gain in Urban**

**First Nations Women (H 02-12-05)**

Dear Professor Giles and Ms. Darroch,

The Health Sciences and Science Research Ethics Board has examined your request for ethics approval of the following modifications to your research project:

- The research project will become Ms. Francine Darroch's doctoral thesis project. Ms. Darroch will be supervised by Professor Audrey Giles.
- The end of study date is now August 2014.
- Final interview guide is provided.

Your request has been accepted. The certification of ethical approval granted on June 21, 2012 and valid until June 20, 2013 covers these modifications.

During the course of the study, any further modifications to the protocol or forms may not be initiated without prior written approval from the REB. You must also promptly notify the REB of any adverse events that may occur.

If you have any questions, please do not hesitate to contact me at extension 1682.

Sincerely yours,

Germain Zongo  
Protocol Officer for Research Ethics  
For Daniel Lagarec, Chair of the Health  
Sciences and Sciences REB

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File Number: H02-12-05



Date (mm/dd/yyyy): 05/29/2014

**Université d'Ottawa** **University of Ottawa**  
 Bureau d'éthique et d'intégrité de la recherche Office of Research Ethics and Integrity

## Ethics Approval Notice

### Health Sciences and Science REB

#### Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
Audrey	Giles	Health Sciences / Human Kinetics	Supervisor
Francine	Darroch	Health Sciences / Human Kinetics	Student Researcher

File Number: H02-12-05

Type of Project: Professor

Title: Gaining Insight: Understanding and Preventing Excessive Prenatal Weight Gain in Urban First Nations Women

<u>Renewal Date (mm/dd/yyyy)</u>	<u>Expiry Date (mm/dd/yyyy)</u>	<u>Approval Type</u>
06/21/2014	06/20/2015	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A

### **Appendix G: Contributions**

Francine Darroch developed, designed, and undertook this dissertation, its theorization, analysis, and writing. Dr. Audrey Giles supported all aspects of the dissertation's development, theorization and analysis, and provided assistance and input into writing and reviewing the final product. All papers have been/will be published with Darroch as first author and Giles as second.