UNDERSTANDING THE SOCIAL DETERMINANTS OF SUBSTANCE USE AMONG PREGNANT-INVOLVED YOUNG ABORIGINAL WOMEN: A MIXED METHODS RESEARCH PROJECT

by

Sana Shahram

Bachelor of Arts in English Literature, The University of British Columbia, 2007
Bachelor of Science in Cell Biology & Genetics, The University of British Columbia, 2007
Masters of Public Health, Tufts University School of Medicine, 2009

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Abstract

There is a lack of research exploring the social, political and historical contexts of substance use during pregnancy among young Aboriginal women. Although Aboriginal women have been hyper-visible in policies and programming for substance use during pregnancy in Canada, there remains a dearth of information about Aboriginal women’s experiences with substance use and pregnancy in the published literature. In order to understand the social determinants of substance use during pregnancy from the perspective of young Aboriginal women themselves, a convergent mixed methods research project was conducted. The research project included a secondary data analysis (N=291), life history interviews (N=24), and an innovative pilot participant-generated mapping exercise called CIRCLES (Charting Intersectional Relationships in the Context of Life Experiences with Substances) developed by the author (N=17). The research project’s findings were integrated to inform the creation of a new wellness-focused model of the social determinants of substance use among pregnant-involved young Aboriginal women. The new model identifies several points of intervention for supporting women’s strengths, resilience and the maintenance of the mother-child unit to promote wellness among women. Further research is needed to test this new model among larger populations, and to identify specific resiliency factors to support Aboriginal mothers and their children.
Preface

The research protocol for the research project reported on in this dissertation was approved through full board review by the UBC Providence Health Care Research Institute’s behavioural research board. Approval was obtained on April 15, 2014, certificate # H13-03163.

A version of the systematic review that appears in Chapter 2 has been accepted for publication:

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Glossary

Aboriginal: Collectively refers to the original people of North America, including the three distinct groups of First Nations (historically referred to as Indian), Metis and Inuit peoples (Constitution Act, 1867). Over 1.4 million individuals in Canada identify themselves as an Aboriginal person (Statistics Canada, 2011).

Indigenous: Refers to Aboriginal peoples globally (Indian and Northern Affairs Canada, 2010).

Please Note: Throughout this dissertation, the terms, Aboriginal, First Nations, Indigenous, Status Indian and Indian are used in accordance with the term used by participants in the study or the cited authors.

Pregnant-Involved: This term refers to women who have ever experienced pregnancy at any point in their lives, regardless of the outcomes of pregnancy and their subsequent mothering experiences.

Resiliency: For the purposes of this research project, resiliency is defined as the ability to recover from challenges faced in everyday life (Wesley-Esquimax, 2009), as a measurement of hardiness (Kirmayer et al., 2012) or historically, what has been referred to as individual and community social psychological adaptation to life challenges (Kurtz, 2011).

Social Determinants of Health: The social determinants of health are those factors which influence the health of populations. The official list of social determinants of health as defined by the Public Health Agency of Canada includes: income and social status; social support networks; education; employment/working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; gender; and culture (Mikkonen & Raphael, 2010).

Aboriginal-Specific Social Determinants of Health: In addition to the broader social determinants of health, Aboriginal-specific social determinants of health have been proposed that uniquely impact Aboriginal populations’ health in Canada (Reading & Wien, 2009). These include: colonialism; racism and social exclusion; self-determination; cultural continuity, environmental stewardship; and community infrastructure, resources and capacities. In addition, it is proposed that these determinants need to be understood within an integrated life course approach that attends to Aboriginal perspectives on holistic health, while acknowledging the
socio-political context within which these determinants influence the health of Aboriginal populations in Canada.

Holistic Health: A holistic perspective of health is in keeping with Indigenous concepts of health and wellness that include the physical, spiritual, emotional and mental dimensions of health, as well as the interrelatedness of these dimensions (Reading & Wien, 2009). Wellness and health is conceptualized as maintaining balance within and between all four dimensions of health.
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In memory of my father,

and his eternally rose-coloured glasses.
Chapter 1 Introduction

Substance use during pregnancy has significant health effects for both women and their infants. In Canada, pregnant adolescents are more likely than older mothers to take part in dangerous activities and have higher rates of substance and tobacco use (Al-Sahab, Heifetz, Tamim, Bohr, & Connolly, 2012). Aboriginal young women are a particularly vulnerable population for substance use during pregnancy. Registered Indian teenagers have pregnancy rates that are six times higher than that of other Canadian teens, while for First Nations teenagers under the age of fifteen, the fertility rate is estimated to be as much as eighteen times higher than that of other Canadians (Mann, 2013). Teenaged motherhood often exacerbates the vulnerability of Aboriginal women who may be already disadvantaged socio-economically on account of their cultural background and gender (Mann, 2013). Young Aboriginal mothers are at greater risk of academic underachievement, reduced employability, single parenthood, and an increased dependence on income assistance (Mann, 2013), all of which are associated with greater risks for substance use during pregnancy (Poole & Greaves, 2007). These increased risks, combined with the unique cultural, social and historical contexts within which many of these young women live, point to a potentially vulnerable population for substance use during pregnancy. From a Canadian public health perspective, then, further research to understand alcohol and drug use among young Aboriginal women who have experienced pregnancy is warranted.

Substance Use, Pregnancy and the Canadian Public Health Landscape

Substance use, and the harms associated with it, has wide reaching effects on individuals, families and communities in Canada (Rehm, Adlaf, Recel, & Single, 2006). It is estimated that the total costs of substance abuse for all substances (including tobacco) in 2002 was $39.8 billion (Thomas & Davis, 2007). Approximately 39% of these costs were direct costs related to health care, enforcement and prevention, while 61% of these costs were from indirect sources related to productivity losses associated with premature death and disability (Thomas & Davis, 2007). The economic costs associated with prenatal alcohol and drug use, however, are more difficult to calculate. Still, they are important considerations, not only because of the costly short-term and long-term expenditures, but also in terms of the cyclical perpetuation of harm, where children with prenatal exposure are more likely to also use substances as adults (Hutson, 2006).

Due to increased awareness and screening of fetal alcohol spectrum disorders (FASD) in Canada, there are more cost estimates for prenatal alcohol use than for prenatal drug use. It has
been estimated that 3000 babies with FASD are born in Canada each year, with an estimated annual cost of $344.2 million associated with only children between 1-21 years of age (Hutson, 2006). These estimates do not include considerations of the costs of neonatal care, other short-term consequences of prenatal alcohol exposure, or costs associated with the over-representation of children with FASD in the child welfare system as well as in incarceration in Canada (Hutson, 2006). Similar calculations for costs associated with prenatal drug use are scarce, in part due to a lack of understanding of the long-term effects of prenatal drug exposure, as well as unreliable prevalence data on drug use during pregnancy (Hutson, 2006). Despite these shortcomings, these cost estimates indicate the scope of the problem of prenatal substance use, while also demonstrating the wide reaching effects it can have in many realms of Canadian society.

Noticeably missing, however, from these cost calculations, are any considerations regarding the impacts of prenatal substance use on mothers, and the downstream effects on their lives and future opportunities.

While considerations of the economic costs of substance use and substance use during pregnancy are relevant in terms of discussing the benefits of prevention efforts, using economic costing arguments for prevention must be approached with caution (Salmon, 2011). By framing substance use during pregnancy from the perspective of “extra lifetime costs” associated with women’s children, mothers become positioned as legitimate targets of public health interventions, and infringement on their reproductive autonomy, in the name of protecting the needs, interests and expectations of “Canadian society”, can seem justifiable (Salmon, 2011). Additionally, and problematically, this type of argument implies that these costs cannot and should not be expected to be met through government resources, and places the existence of persons with FASD at odds with the overall goals of the State, thereby reinforcing the concept that mothers who use alcohol are adversaries of Canadian society as a whole (Salmon, 2011).

The downstream effects of these cost valuations (where the costs to the mother’s health and social conditions are virtually ignored) are evident in the public health discourses around alcohol and drug use during pregnancy. In a discourse analysis of media and policy documents related to mothers who use substances, Poole and Greaves (2009) found that:

> [s]ubstance users were generally deemed unworthy of help because they were portrayed as responsible for their fate through their ‘willful’ actions. In fact, anger toward women who used substances was evident. Most of the news articles...appear to blame the
mothers for the situation and express little or no optimism about chances for change and successful mothering (p. 56).

There has been a long tradition in public health to focus on women’s reproductive value over women’s health for its own sake, wherein women’s health behaviours are only taken notice of when they are seen as compromising the health of a foetus (Greaves & Poole, 2004). In this context, stigma and punitive discourses about pregnant women who use substances flourish, while women themselves are relegated to being viewed merely as vessels that are working on behalf of society as passive trustees of the foetus (Greaves & Poole, 2004; Poole & Greaves, 2009; Salmon, 2011).

A by-product of these approaches to substance use during pregnancy has been a slew of public health campaigns where alcohol and drug use prevention messages are targeted exclusively at pregnant women (Salmon, 2011). This type of approach is particularly problematic in the context of Aboriginal mothers, where alcohol and drug use during pregnancy can be seen as both a symptom and a legacy of the colonisation of Indigenous peoples in Canada (Salmon, 2011). Still, hegemonic understandings of the sources of substance use during pregnancy among Aboriginal women as being rooted in individual deficits persist, as evidenced by the government’s lack of action on policies that perpetuate colonial conditions and health disparities for these mothers, while simultaneously and continuously pointing to the extraordinary costs to communities and State institutions caused by their behaviour (Salmon, 2011).

The prevalence of both alcohol and other drug use in Canada has been increasing over the past decade (Canadian Centre on Substance Abuse, 2012; Rehm et al., 2005), and women’s substance use in particular has been increasing over the last 15 years (Ahmad, Flight & Singh, 2008; Ahmad, Poole & Dell, 2007; FNIGC, 2012; Poole & Dell, 2005). Aboriginal young women constitute a group of women that are disproportionately affected by substance use in Canada, with a paucity of research examining their particular social contexts and drivers of use, particularly as it relates to pregnancy (Niccols, Dell, & Clarke, 2010; CARBC, 2008). Alcohol and drug use by Aboriginal young women during pregnancy is a complex issue. It represents both a public health issue, as well as the gendered and racialized conditions of disenfranchisement and abandonment that are characteristic of the experiences of many Aboriginal women in Canada today (Salmon, 2011).

There is a pressing need for research to prioritize women’s voices and experiences, and to inform health promotion approaches with evidence from mothers’ lived experiences with alcohol
and drug use, while explicitly rejecting the notion that the interests of the foetus and the mother are necessarily irreconcilable (Poole & Greaves, 2009). Critical analysis of substance use during pregnancy among young Aboriginal women is necessary to understand the material conditions and contexts affecting these women’s health. In addition, research conducted from a women-centered, social determinants of health perspective is needed to serve “as a form of resistance to the pervasive negative discourse surrounding substance use by mothers, but also as a contribution to evidence-based practice and improved policy-making regarding mothers, and their children” (Poole & Greaves, 2009, p. 64). In order to accomplish this, the singular focus on substance use during pregnancy must be broadened to include women’s life experiences with alcohol and drug use before, during and after pregnancy. This expanded focus on life experiences of pregnant-involved young Aboriginal women will allow for a more contextual understanding of how social determinants of health influence alcohol and drug use across these women’s lives, while also informing a deeper and more nuanced understanding of their experiences with substance use during pregnancy.

**The Social Determinants of Health and Substance Use during Pregnancy**

Although women-centred and trauma-informed prevention and treatment approaches for substance use during pregnancy have been strongly encouraged (British Columbia Centre of Excellence for Women's Health, 2009a, 2009b; Brown & Stewart, 2007; Canadian Centre on Substance Abuse, 2012; Covington, 2008; Niccols et al., 2010; Poole, Urquhart, & Talbot, 2010), there remains a dearth of knowledge about the social determinants of substance use among pregnant-involved Aboriginal young women to support and inform these approaches. Much of the research in this field has neglected the social contexts within which these behaviours occur, and instead continues to be descriptive, while providing few examples of evidence-based substance use programs specifically serving at risk groups, such as young Aboriginal women (Greaves et al., 2011). For many pregnant women in high priority or hard to reach groups, however, social issues such as trauma, violence, unemployment, poverty and stress often underlie substance use behaviours during pregnancy (Greaves et al., 2011); understanding these contexts, from a social determinants perspective, through respectful and thoughtful research that prioritizes these women’s voices and life experiences, is paramount to informing effective interventions and policies.

In comparison to males, females are more vulnerable to the harms of substance use (e.g., with less alcohol exposure over shorter time-periods, females are more susceptible to gastric
ulcers than males) and women typically report more complex precursors to use, more negative consequences of use and greater barriers to treatment (Niccols et al., 2010). The use of substances by women in Canada has been shown to vary according to age, ethnicity, income, mothering roles and other important determinants, with heavy and frequent use typically occurring among those with lower incomes and lower levels of education (Ahmad, Poole, & Dell, 2007). Research has shown that women who use substances are often facing challenging life circumstances such as severe economic and social problems (Niccols et al., 2010), and substance use among women has been consistently linked to histories of abuse and psychological issues (Poole & Greaves, 2007). Specifically, substance use has been shown to peak among young women between 18-24 years old (Ahmad, et al., 2008).

People accessing substance use treatment programs commonly report overwhelming experiences of trauma and violence (CCSA, 2012). Trauma is both an event and a particular response to an event (Covington, 2008), and posttraumatic stress results from external trauma and terrifying experiences that break a person’s sense of predictability, vulnerability and control (Mitchell & Maracle, 2005). Contradictorily, while substance use provides a beneficial way to cope with trauma-related stress, this adaptive coping mechanism also makes trauma-survivors more vulnerable to substance use problems (CCSA, 2012). The relationship between trauma and substance use becomes particularly pertinent to a discussion of women and substance use when considering that helping professionals around the world report associations between addiction and all forms of interpersonal violence in women’s lives (Covington, 2008). In fact, research has shown that a large majority of women with addiction problems have suffered violence and other forms of abuse, and a history of abuse drastically increases the likelihood that a woman will abuse alcohol and other drugs (Covington, 2008). As such, substance use among women from a trauma-informed perspective is conceptualized as a coping mechanism, and the use of alcohol and drugs is seen as a secondary behavioural attempt to numb or soothe feelings associated with trauma experiences that overwhelm a woman’s normal coping mechanisms (Haskell & Randall, 2009; Covington, 2008).

Given these demographics, Aboriginal young women are a particularly vulnerable group (King, Smith, & Gracey, 2009), and accordingly have higher rates of substance use in Canada than non-Aboriginal young women (FNIGC, 2012, CARBC, 2008). When compared to the rest of Canada, the Aboriginal population is younger, has lower rates of formal education, higher rates of unemployment and substantially lower incomes (with Aboriginal women having lower incomes than Aboriginal men) (Bougie, Kelly-Scott, & Arrigada, 2013; FNIGC, 2012;
O’Donnell & Wallace, 2011; Pearce, Pederson, & Greaves, 2007), while also bearing a disproportionate burden of illness and poor health, poverty and violence (Adelson, 2005; Brennan, 2011; Halseth, 2013). These inequities have consistently been linked to the social and cultural disruption and historical and intergenerational trauma that have characterized the experiences of Aboriginal people in Canada (Haskell & Randall, 2009; Mitchell & Maracle, 2005), and it has been suggested that Aboriginal women may be particularly disadvantaged in facing discrimination and marginalization both as women and as Aboriginals (Pearce et al., 2007) and further marginalized as substance users (Brunen & Northern, 2000).

Moreover, the high incidence of substance use among Aboriginal young women and girls is said to be both the result of and a response to, the complex, multiple losses experienced through the generational effects of colonization, the loss of traditional lands and culture, forced removal from families, residential schooling and historical trauma (Czyzewski, 2011; Shannon et al., 2008). Yet, Aboriginal young women’s social contexts and life experiences remain understudied in substance use research (Dodgson & Struthers, 2005; Niccols et al., 2010), and there is a need for further research to understand these social dimensions to inform efforts to reduce the harms associated with alcohol and drug use among pregnant-involved young Aboriginal women and their children. Additionally, in British Columbia (BC) in particular, there has been a move towards addressing health issues among Aboriginal populations from a wellness-based approach that is non-pathologizing for Aboriginal populations. This focus is in keeping with the First Nations Health Authority (FNHA) in BC’s vision and values for research with First Nations in BC, and serves as a guide for this dissertation research project (FNHA, 2014).

**Problem Statement**

In Canada, substance use during pregnancy has been predominantly framed as a mother’s individual health behaviour problem, while medical and public concern has almost exclusively focused on the potential harms to the unborn child. Lost among many of these discussions, however, have been the contextual factors of these women’s lives that contribute to and perpetuate substance use and addictions, and the subsequent harms associated with it for both mothers and their children. Meanwhile, research continues to show that substance use among women is often rooted in the social determinants of health and the complex contexts of these women’s lives. Given the history of colonialism in Canada and its intergenerational impacts, contextual factors are particularly relevant among Aboriginal young women who use alcohol and drugs during pregnancy. Aboriginal mothers in Canada have endured much scrutiny by
researchers, health professionals and the general public on the issue of alcohol and drug use during pregnancy. However, while much attention has been paid to identifying and quantifying substance use among Aboriginal women, much less attention has been paid to understanding the complex intersections between the social determinants of health and substance use prior to, during, and after pregnancy. There is an urgent need to understand women’s broader life experiences and social contexts in order to identify and intervene on the social determinants of health that influence alcohol and drug use during pregnancy among young Aboriginal women in Canada.

**Research Project Question**

What are the social determinants of alcohol and drug use for pregnant-involved young Aboriginal women and how do these determinants influence alcohol and drug use before, during, and after pregnancy?

Using a convergent mixed methods design, this research project aims to answer this research question through three studies (a quantitative, a qualitative and a convergent mixed methods study, respectively) as shown in Figure 1.

![Figure 1. Research Project Design](image)
Research Project Objectives

The three research objectives for this project are detailed below, including an overview of each study that was completed to address each research objective, respectively.

Objective #1: To identify the social determinants of substance use among pregnant-involved young Aboriginal women and to test their influences using the Integrated Life Course and Social Determinants of Health Model of Aboriginal Health (ILCSD Model).

Using a secondary data analysis, the following research questions were explored to address this objective:

- What are the social contexts of the lives of young, pregnant-involved Aboriginal women who use alcohol and drugs in British Columbia, Canada?
- Can the ILCSD Model’s social determinants of health within distal, intermediate and proximal domains predict heavy alcohol use, drug use (smoked) and drug use (injected) in the previous six months among pregnant-involved young Aboriginal women?

Objective #2: To understand the strengths-based life experiences of pregnant-involved Aboriginal young women with drugs and alcohol and to explore their perspectives on the intersections of the social determinants of substance use during pregnancy.

Using life history interviews the following research question was explored to address part of this objective:

- What are the life histories of pregnant-involved young Aboriginal women who use alcohol and drugs?

Using a participant-generated mapping activity called CIRCLES to supplement the life history interviews, the following research question was explored to address part of this objective:

- How do pregnant-involved young Aboriginal women conceptualize and understand the social determinants of substance use and their intersections?

Objective #3: To integrate the quantitative and qualitative findings into a social determinants of health model of alcohol and drug use among pregnant-involved young Aboriginal women to guide future policy and programming initiatives.
Using a side-by-side comparison table of the findings from each sub-study, the following research questions were explored to address Objective 3:

- What are the social determinants of substance use among pregnant-involved young Aboriginal women?
- How do the social determinants of substance use among pregnant-involved young Aboriginal women intersect to support or detract from overall wellness?

**Dissertation Layout**

Before conducting this research project, a systematic literature review was conducted to identify previous research on this topic. The findings from this review are presented in Chapter 2, following a discussion of the historical, political and social contexts of substance use among Aboriginal women and an overview of the theoretical underpinnings that guided this research project. Chapter 2 is intended to provide further background and support for the overall research project and the subsequent research studies that were conducted.

In Chapter 3, the study population for the research project is described, and the methods for the research project are presented. Chapter 4 presents the findings from a secondary data analysis conducted to describe the social contexts of pregnant-involved young Aboriginal women’s lives and to address the applicability of an Aboriginal-specific social determinants of health model to predicting substance use among this population. In Chapter 5, the life histories of pregnant-involved young Aboriginal women are presented to further understand their life experiences with substance use and mothering. In Chapter 6, the perspectives of pregnant-involved young Aboriginal women on the intersections of the social determinants of substance use are presented. Chapter 7 presents the findings from the convergent mixed methods study where the findings from the quantitative and qualitative studies are compared to inform the creation of a new model for understanding the social determinants of substance use among pregnant-involved young Aboriginal women. Finally, Chapter 8 includes a discussion of the findings, the research and policy implications of this research project and the strengths and limitations of the research project. Future directions for policy, programming and research in the area of substance use among pregnant-involved young Aboriginal women are proposed.
Chapter 2 Exploring the Determinants of Substance Use among Pregnant-Involved Young Aboriginal Women

Indigenous women in Canada are a diverse and varied population. However, the term Aboriginal in Canada is usually understood to represent peoples with First Nations, Inuit or Metis ancestry as a ubiquitous group that does not require distinction. While there exists great variation even within these different classifications, on account of historic and contemporary colonization practices, as well as imposed misclassifications, many Indigenous or Aboriginal women share a common experience of the loss of land, language and socio-cultural resources, and therefore face a similar experience of systemic racism, discrimination and social exclusion in the Canadian context (Halseth, 2013). As a result, many Indigenous women experience similar poor health outcomes because of these social and historical circumstances, despite variations both culturally and individually. For the purposes of examining the social determinants of substance use among pregnant-involved young Aboriginal women, these historical undercurrents precede the decision to consider young Aboriginal women as a collective population.

A major impediment to addressing the social determinants of substance use among Indigenous women in Canada has been a lack of attention to the drivers of social and economic inequalities. There is a need to examine issues such as racism, addiction, poverty, precarious social and medical status, violence, chronic social and legal persecution and discrimination from an understanding of the effects of historic and contemporary colonization practices and policies (Cull, 2006). Failure to acknowledge the impacts of specific drivers of health inequalities for young Aboriginal women in Canada allows paternalistic and prejudiced attitudes towards Aboriginal women to persist (Chansonneuve, 2005), while serving to support mainstream society’s continued ignorance of the issues and challenges faced by many Indigenous women in Canada today. There is an urgent need to understand the social determinants of substance use among pregnant-involved young Aboriginal women using an Aboriginal-specific model of the social determinants of health that attends to unique social and historical contexts and drivers of inequalities.

This chapter explores current knowledge on substance use among pregnant-involved young Aboriginal women, presents a social determinants of health model for understanding this health behaviour with an Aboriginal approach, and finally presents a systematic review of the
literature exploring the social determinants of substance use among Aboriginal women. The intent of this chapter is to situate this project in the current research and political landscapes, to make clear a model of substance use that may be helpful in understanding substance use among pregnant-involved young Aboriginal women, and to provide a clear justification for the research project and methods used.

**The Historical, Political and Social Contexts of Substance Use**

Research with Indigenous women who use substances needs to explicitly acknowledge the legacy of colonial processes as a starting point for understanding the root causes of these health problems and for the development and implementation of programs and policies to serve Aboriginal women (Hackett, 2005). As such, the contemporary socio-economic conditions that characterize the lives of many Aboriginal women in Canada today must be framed as the downstream effects of policies and processes that began with colonization (Cull, 2006; Halseth, 2013, Reading & Wien, 2009). Colonization practices dramatically altered and subsumed the traditional social location of Indigenous women, with subsequent and enduring impacts on their contemporary social status and health outcomes that continue to resonate in the lives of Indigenous women today.

**Pre-contact Indigenous women**

Pre-contact Indigenous women enjoyed considerable power, social status, respect and influence (Barman, 2010). They were treated with reverence, as the givers of life, the keepers of tradition, practices and customs, and the decision makers in realms of family, property rights and education (Boyer, 2009; Chansonneuve, 2005; Lavell & Lavell-Harvard, 2006). The majority of Indigenous cultures were matrilineal, and clans consisted of a Clan Mother, with her daughters or a group of sisters, together with their husbands and children (Boyer, 2009; Chansonneuve, 2005; Lavell & Lavell-Harvard, 2006). Rather than matrimony or divorce, mutual consent decided unions and dissolutions, while the values of non-interference and sharing guided most interactions (Chansonneuve, 2005). Contrary to popular (mis)representations, pre-colonization Indigenous cultures in Canada had elaborated political systems, whose influences can still be seen in political organizations today. Politically, Indigenous women enjoyed sweeping powers: they ran local clan councils, ran funerals, nominated and impeached all political representatives, appointed warriors, declared war, negotiated peace and mediated disputes (Boyer, 2009; Chansonneuve, 2005; Cull, 2006; Lavell & Lavell-Harvard, 2006).
The egalitarian structures of most Indigenous groups prior to colonization, meant that women were not solely dependent on their spouses for essential needs, and were therefore not vulnerable to violence, abuse and domination (Cull, 2006). Men were the ones who left their families to join their new wives’ families and women, who controlled the economy through the distribution of wealth and inheritance, were the heart and the head of their family units (Cull, 2006). The diminishing status of Indigenous women, however, can be traced directly with the progression of colonialism (Boyer, 2009).

The colonial legacy

Beginning in the 16th century, European missionaries and settlers began to arrive in North America. Europeans subscribed to the “doctrine of discovery” which stated that sovereignty could be claimed immediately over barren or uninhabited land. However, if it was inhabited, accumulation of the land required proof that those inhabiting the lands were uncivilized, and therefore incapable of legitimately holding land (Boyer, 2006; Boyer, 2009; Cull, 2006; Wesley-Esquimaux, 2009). The overall goal of colonization was land acquisition, and as such, this meant that Indigenous women (who were the chief proprietors of land) were a distinct threat to the colonization process (Boyer, 2009). Accordingly, the established and complex government and social systems Aboriginal peoples had in place were tactically dismantled, and male-female social roles were disrupted through the imposition of ideas of patriarchy and male dominance, in a concerted effort to destabilize the role of Aboriginal women (Boyer, 2006; Boyer, 2009; Cull, 2006; Wesley-Esquimaux, 2009).

The forced rearrangement of gender roles by colonization practices severely disrupted Indigenous family structures, and explicitly removed women from roles of power (Wesley-Esquimaux, 2009). A substantial cultural shift occurred when European fur traders refused to trade with Indigenous women. Their husbands, brothers, and fathers were forced to take over this duty, whereby men became in charge of the proceeds from these trades, and women became dependent on men for their economic security (Boyer, 2009). The impacts of the subsequent degradation of the social roles of Indigenous women through colonization and post-colonial practices can be seen today in the severely compromised health status of Indigenous women in Canada (Bourassa, McKay-McNabb, & Hampton, 2009). Still, while colonization processes were destructive for all Aboriginal peoples, the specific impacts and damages of colonization for Indigenous women remains the least discussed assault of colonization (Wesley-Esquimaux,
Legislative genocide

Colonial laws and policies disproportionately targeted and disenfranchised Aboriginal women (Boyer, 2006). Through colonialism, male created and centered values were imposed and used to shape institutions, laws, policies and legislated discriminations that have had continued and long-lasting negative effects on the health of Aboriginal women (Boyer, 2006; Greenwood & DeLeeuw, 2007). With the imposition of British common law, Aboriginal women were quickly relegated to being viewed as chattels, with no social or legal status, dependent first on their fathers, and then on their husbands, at which point, married women essentially occupied the same social status as idiots and children (Boyer, 2009). Needless to say, as patriarchy and paternalism became dominant features of Indigenous societies, the roles of women and the Indigenous family unit were annihilated (Boyer, 2009), and so was their sense of cultural identity.

The imposition of definitions of Indian identity by colonialists created cultural ambiguity for Indigenous peoples, and, through sexist specifications inherent in the legislation, the ramifications of this legislation were the most severe for Aboriginal women (Bourassa et al., 2009). Some of the most severe impacts on Indigenous women through legislation can be seen by examining the Indian Act, the Sexual Sterilization Act, and the progression of laws surrounding prostitution.

The Indian Act.

In 1850, the Indian Act formally legislated the definition of the word “Indian”. The Act, which deemed Aboriginal people to be wards of the state, entrenched a system of dependency that persists today in the predominant conceptualizations of Aboriginal people in Canada as inherently inferior, incapable of independent thought, and in need of a smarter race to help them (Bourassa et al., 2009). Despite the fact that this stereotype was perpetuated as a result of the European desire to accumulate land, rather than an inherent flaw in the peoples, classifications created by the Act have been accepted in Canada as being cultural in nature, while their origins in social constructions imposed by legislation have been completely forgotten (Bourassa, et al., 2009).
In 1867, Section three of the *Indian Act* was amended to exclusively define an Indian in terms of any male person of Indian blood, any child of such person and any woman who is or was lawfully married to such a person (Boyer, 2009). A 1906 amendment further redefined a person as anyone other than an Indian (Boyer, 2009). By defining Indigenous women as legal non-persons until 1951, and making their Indian status dependent on their matrimonial status, the *Indian Act* served to completely destabilize the place of the Indigenous woman in society (Bourassa et al., 2009; Boyer, 2009; Cull, 2006).

The *Indian Act* reinforced racist and sexist policies in a number of ways, and as a consequence diminished the power and resources available to Aboriginal women in Canada (Bourassa et al., 2009; Boyer, 2009; Cull, 2006). Until 1985 (when the act was amended through the lobbying of Aboriginal women to the Supreme Court and international courts with Bill C-31) Indian women who married non-Indian men lost their Indian status and band membership (Bourassa et al., 2009; Boyer, 2009; Chansonneuve, 2007; Cull, 2006; Lavell & Lavell-Harvard, 2006). Women were banished from their communities (as non-Indians were not allowed on reserves) and were forced into enfranchisement (Bourassa et al., 2009; Boyer, 2009; Chansonneuve, 2007; Cull, 2006; Lavell & Lavell-Harvard, 2006). Even then, the “Indian” woman was not granted the full benefit of Canadian citizenship, and could not own property, and since she could not return to the reserve even in cases of divorce, she effectively lost all property rights (Bourassa et al., 2009). Indian women who married non-Indian men could not even inherit their husband’s land or assets after his death until 1884, after which they were only able to inherit one third of the property if they were deemed to be of “good moral character” by an Indian agent (Bourassa et al., 2009). On the flip side, if a non-Indian woman married an Indian man, she gained full status, and retained it even after divorce or becoming a widow (Bourassa et al., 2009).

Through gender discrimination inherent in the *Indian Act*, the government committed a massive act of cultural genocide where over 25,000 women lost their status and were forced to leave their communities between 1876 and 1985 (Bourassa, et al., 2009; Boyer, 2009; Cull, 2006). Even after Bill C-31 and the reinstatement of many women to legal status, damage from the previous legislation persisted; “new Indians”, “paper Indians” or “C-31’s” remained blocked from full participation in their communities and could not take part in the government and decision-making processes that nonetheless affected their day-to-day lives (Bourassa et al., 2009). Still today, under Bill C-31, grandchildren and great-grandchildren of women who marry
non-status men lose their status (Bourassa et al., 2009), while the same does not apply to men. The *Indian Act*, however, is unfortunately just one example of discriminatory legislation against Indigenous women that was perpetuated in the years following colonization.

**Prostitution.**

In 1839, when the first Canadian statute that dealt with prostitution was passed in Lower Canada, “the Native woman prostitute” was identified as the new social problem. What had once been considered acceptable sexual relations between colonial elites and Aboriginal women during the fur trade era, was replaced and censured with prostitution (Boyer, 2009). Starting in 1879, several provisions regarding prostitution were added to the *Indian Act* and were aimed exclusively at intra-racial prostitution only, and criminalized Indian women for practising prostitution and Indian men for pimping or purchasing the services of these women (Boyer, 2009). Conversely, there was little effort to punish the non-Indigenous man (Boyer, 2009). By 1892, when the *Criminal Code* was developed, prostitution was moved from the *Indian Act*, and women who were arrested for these crimes were banished from cities and towns back to their reserves, if their communities would accept them back (Boyer, 2009). From early-on then, the unwarranted misrepresentation of the Indigenous woman as prostitute, and as the source of and target of blame for “immorality”, became entrenched into Canadian society. The resulting vulnerability of Indigenous women on account of these legislative practices has been exploited by Indigenous and non-Indigenous men to carry out acts of extreme brutality against Indigenous women (Boyer, 2009) that continue to be perpetuated today. These desperate circumstances have been compounded by sexist stereotypes and racist attitudes towards Indigenous women and girls; the general indifference to their welfare and safety is blatantly evident in Canada’s inadequate response to the number of Indigenous women who have been murdered or gone missing over the last 20 years (Boyer, 2009). The *Sterilization Act* is yet another example of Canada’s attempt to control the bodies of Indigenous women through legislation.

**Sterilization.**

Around 1929, with the eugenics movement gaining popularity in Europe, Canada began a policy of involuntary surgical sterilization (Boyer, 2009). This was practiced most heavily in Alberta under the *Sexual Sterilization Act*, and in British Columbia, between 1929 and 1972 (Boyer, 2009). The act was intended to stop “mentally defective” peoples from having children, although a 1937 amendment also applied the law to people who were deemed “incapable of intelligent parenthood” (a concept that had at this point been legislated to apply to all Aboriginal
mothers through the imposition of residential schools) (Boyer, 2009). Although many records were destroyed, in what remained, Aboriginal women were the most notably over-represented group of peoples who were sterilized during this period of time (Boyer, 2009; Cull, 2006). An investigation in the United States found that in a period of three years, 1973-76, 3406 involuntary sterilizations of Aboriginal women had occurred in just four hospitals (the equivalent of 500,000 women among the general population) (Boyer, 2009; Cull, 2006). With the eugenics movement, Indigenous women’s position as people with severely compromised status was cemented, and the precedent for placing Indigenous women’s capacity to reproduce under government scrutiny was set (Cull, 2006).

**Mothering under the state’s gaze**

The historic and contemporary practices of forcibly removing Aboriginal children from their families have resulted in the propagation of difficulties in forming trusting relationships and to self-soothe in healthy ways, from generation to generation (Chansonneuve, 2007). This difficulty in forming strong attachments as children and the experiences of historical and contemporary trauma that characterize the lives of many Aboriginal women and children, have contributed substantially to the level of addictive behaviours in Aboriginal populations today (Chansonneuve, 2007).

Since colonization, Aboriginal mothers have been consistently and unjustly characterized as unfit or inferior parents by the state, as a means to justify the continued scrutiny the government employs in its surveillance and intervention into Aboriginal mothering (Cull, 2006). Due to its long history, the stereotype of the unfit Aboriginal mother has become entrenched into Canadian social and governmental systems and this has had devastating effects for Aboriginal mothers, their children and their communities (Cull, 2006).

Interference by the state in Indigenous pregnancies and births, beginning with colonization, stole the sovereignty of Indigenous women. Instead, Indigenous women continue to navigate their experiences of motherhood under the constant and unrelenting gaze of the state (Cull, 2006; Simpson, 2006). These practices have created an enduring identity for Aboriginal mothers that has been described as bad, uncivilized and incapable; these characterizations underscore the aggressive tactics that have been used to restrict and redefine Aboriginal women’s capacities in Canada (Cull, 2006), first through residential schools, and then through child apprehensions that persist today.
**Residential schooling.**

Starting in the late 1800’s and ending in 1998 with the final closure, Aboriginal children were forcibly removed from their homes to attend residential schools. These residential schools were created by the state in an effort to ‘civilize the Indian’, and since the state believed adults were already too far gone to be ‘rescued’, the schools targeted Indian children in the hopes of saving them from their otherwise, as they saw it, destitute fate (Chansonneuve, 2007; Fournier & Crey, 1997; Milloy, 1999). The residential school system was explicitly devised as a method to ‘kill the Indian in the child’, and required that the children be isolated from their so-called immoral surroundings, including their families, their communities, and their culture (Milloy, 1999). Residential schooling intended to indoctrinate the children into the ways of Canadian society; however, to be clear, the residential schooling curriculum never aspired beyond preparing these children to join the very lowest fringes of this society (Chansonneuve, 2007; Fournier & Crey, 1997).

In what followed as one of Canada’s most reprehensible crimes, children in residential schools were exposed to continued and repeated physical, sexual and emotional abuses. They were subject to disparaging neglect on the part of the government and churches, often for the entirety of their childhoods and formative years, and sometimes for up to five generations in just one family (Fournier & Crey, 1997). Today, many of the issues seen among Indigenous communities can be, at least in part, attributed to this long-unbroken history of abuse, mistreatment and neglect of children (Chansonneuve, 2007; Fournier & Crey, 1997; Milloy, 1999). The sexual abuses committed against individual children in residential schools, spilled back into communities, and echoed in the lives of subsequent generations of children (Milloy, 1999). Residential schools left in their wake communities that were overflowing with people suffering from unhealed trauma, grief and rage; this has manifested through the high rates of addictive behaviours, suicide, violence and lateral violence that has persisted across generations (Chansonneuve, 2007).

One of most troubling social pathologies created by residential schooling was the disruption of the transference of parenting skills from one generation to the other, halted by the absence of four or five generations of children from Native communities (Milloy, 1999). Instead, these children learned that power was exerted through abuse, did not form stable attachments, and were shamed into learning to hate their own identities (Chansonneuve, 2007; Fournier & Crey, 1997; Milloy, 1999). These children often grew up to use these same tools on
their own children, and thus created an intergenerational cycle of impacts and harm from residential schooling that still persists today.

The bond between Indigenous mothers and children has been under attack for over five generations: first through the removal of children to attend residential schools, and then through the apprehension of children through the child welfare system. The removal of children over this time period has been so extreme that is has been called an act of “cultural genocide” by International law, and these removals have served to support and sustain the notion of the “unfit” Indigenous mother in Canadian society (Cull, 2006). Any suggestion of these practices being relics of the past, however, is completely misplaced. Currently, there continues to be an over representation of Aboriginal children in state care; while in 2011 Aboriginal people represented 4.3% of the total population of Canada, almost half (48.1%) of the 30,000 children in foster care in Canada were Aboriginal (Statistics Canada, 2011).

Child apprehensions.

In 1951, amendments to the Indian Act transferred the responsibility of health and welfare services of Indigenous people to provincial jurisdiction (Cull, 2006). One by-product of this change was that Ottawa transferred money to the provinces based on each Aboriginal child that was apprehended, resulting in what is now referred to as the “Sixties Scoop” (Cull, 2006). In 1955, there were less than 1% of Aboriginal children in state care, but by 1969 it had jumped to 40%, creating a “lost generation” as children were en masse removed and taken to far away communities and often never heard from again (Cull, 2006). Prior to the amendment, and subsequent fruitful source of funding for provinces, there had been little, if any, concern about Indigenous children’s welfare by the province. More fruitful (and more disturbing) than even the federal government’s funding, however, is the reported $5,000 to $10,000 per child American adoption agencies reportedly paid to buy Aboriginal children from Canadian child welfare services during this time (Cull, 2006). This ramp up of Aboriginal child apprehensions that began in the 1960’s has been sustained for over 50 years, with over 40% of Aboriginal children in care even today. The justification for these child apprehensions and the surveillance of Aboriginal mothers continues to remain highly problematic.

Canadian child welfare agencies have been characterized by a lack of transparency, partly due to departmental policies, and partly due to fragmented services that prevent systematic and critical assessments and evaluations of their activities (Cull, 2006). Despite these issues, it is
clear that Aboriginal children and youth are overrepresented at every stage of child welfare investigations (Cull, 2006). One reason for this is that many of the policies operate from a western ideal of parenting, and the more an Aboriginal mother deviates from this norm, the more vulnerable she becomes to state observation (Cull, 2006). Modern Canadian society has linked parental ability and capacity to material goods and conditions, with variables such as size of home and number of bathrooms factoring into the determination of parental negligence (Cull, 2006). As Cull (2006) astutely points out, the system is set up in a way that almost ensures Aboriginal mothers will be deemed as negligent or incompetent.

The compromised socioeconomic status of Aboriginal mothers places them in perpetual risk of state intervention:

*They live their lives in a society that essentially makes poverty a “quasi” crime and Aboriginal ethnicity a risk factor. Aboriginal mothers, especially impoverished, multiparous, young women, must prove that they are “fit” parents on a daily basis. In criminal law terms, they are guilty and must continually prove themselves innocent.*

(Cull, 2006, p. 147).

Contrary to this over-surveillance of Aboriginal mothers by child welfare agencies, research has consistently suggested that child neglect is actually a resource-based, poverty-related problem, rather than a mother’s individual choice or personal decision to purposefully neglect her children (Lavell & Lavell-Harvard, 2006). Despite these findings, the scrutiny focused on Aboriginal women continues to be unnatural and unjust, and to perpetuate situations where women and families are set up for failure (Cull, 2006; Lavell & Lavell-Harvard, 2006; Simpson, 2006); this unforgiving and often merciless gaze of the state and society (Cull, 2006; Lavell & Lavell-Harvard, 2006; Simpson, 2006) often forces Aboriginal women to conceal their problems, rather than seeking help, for fear of further intervention from the state.

These women’s fears are especially justified when considering the 1997 court case involving an Aboriginal woman who was using substances during pregnancy. In the case of *Winnipeg Child and Family Services (W.C.F.S.) v. G (D.F.) 1997*, the Winnipeg child welfare agency was petitioning the detainment of a (Aboriginal) mother who was sniffing glue in substance treatment until the end of her pregnancy, to protect her fetus (Boyer, 2009; Boyer, 2006; Cull, 2006; Simpson, 2006). The media coverage of the case demonized the mother as a selfish villain, completely ignorant of her contexts (which included the woman’s several
attempts to receive treatment and her subsequent denial on account of limited resources) as well as her own limited resources as a poor, single mother (Boyer, 2009; Boyer, 2006; Cull, 2006; Simpson, 2006). This case further reinforced the fact that women seemingly have two choices when it comes to substance use during pregnancy: concealment, or exposure to extreme state intervention, and the subsequent scorn of media and society, as a whole.

In summary, the removal of children from Aboriginal families for over two centuries has created a vicious cycle and has resulted in numerous social pathologies for both parents and children. Problems such as substance use, high suicide rates and poverty have been attributed to residential schools. These problems have been further exacerbated by the increased surveillance of Indigenous mothers and their children, resulting in an increasing involvement with the criminal justice system and child protection agencies (Cull, 2006), and unjust scrutiny from society as a whole. This legacy of the removal of children from Aboriginal families has contributed to and compounded the experiences of historical and intergenerational trauma that characterize the lives of many young Aboriginal women who use drugs and alcohol during pregnancy, and it also highlights the incredible resilience Aboriginal women and mothers have shown in response to the unthinkable acts committed by the state.

**Historic and intergenerational trauma**

Aboriginal women suffer from disproportionately higher levels of sexual and physical abuse and violence in their lives (Haskell & Randall, 2009). In addition, historical and intergenerational trauma have been stressed as explanatory factors for the large health inequalities that persist among Aboriginal peoples in Canada, and systemic racism, policies of assimilation and cultural genocide have been implicated in the contemporary health crises among Aboriginal women (Mitchell & Maracle, 2005). Scholars have described aspects of the lives of Aboriginal peoples in Canada as being continuously traumatic and entrenched in ongoing traumatic events related to things such as assimilatory policies that led to the loss of land, the decades of incarceration of Aboriginal children, and the high levels of child sexual abuse, sexual assault and domestic violence in many Aboriginal communities (Haskell & Randall, 2009).

Aboriginal mothers and their children, often represent the literal “site” of intergenerational trauma. Recurrent recollections of trauma experienced by individuals have entered into social narratives of Aboriginal peoples, and have manifested in the breakdown of
families and relationships, leaving children who are often psychologically damaged (Wesley-Esquimaux, 2009). Because adults were continuously coping with horrifying memories in their minds, social and parental obligations were difficult to cope with, and many women, unable to speak of their traumas, often found themselves equally unable to express love or tenderness (Wesley-Esquimaux, 2009; Chansonneuve, 2007). This sense of loneliness and trauma then, has in some instances been passed down to Aboriginal women’s children, while they continue to try and cope with their own losses, as Wesley-Esquimaux (2009) explains:

*In some instances, their bodies have become things over which they have little control, due to their own lifetime experiences of sexual and physical abuse. In their numbness, some have abused their own bodies by drinking themselves into oblivion or sniffing glue or gasoline.* (p. 21)

In these contexts, alcohol and drug use appear to be symptoms, with abuse, trauma and social conditions as underlying causes of the behaviours (Benoit, Carroll & Chaudhry, 2003; Chansonneuve, 2007). Many of these issues, again, stem back to the colonial practices exerted on Aboriginal families, particularly through residential schools:

*The toxic mixture of physical and sexual abuse, combined with racist cultural denigration and religious fundamentalism or fanaticism, proved highly traumatic for Aboriginal children who attended these schools, as well as for their descendants.* (Chansonneuve, 2007, p. 41)

Contemporary health and social problems for Aboriginal women and peoples in general have been directly related to multiple generations of children abused in residential schools who were disconnected from families and communities, while also being taught to feel shame about their language, customs and heritage (Chansonneuve, 2007). One painful outcome of this history is lateral violence, where oppressed groups who feel helpless against their oppressor channel anger towards each other through shaming, humiliating, damaging, belittling and sometimes violent behaviour directed to members of their own communities (Chansonneuve, 2007).

Considering the deep-rooted and pervasive effects that trauma has played in the lives of many Aboriginal women, it would be remiss to approach research with women without a firm understanding of its potential impacts. In terms of exploring substance use among Aboriginal
mothers, due diligence must be taken to not only acknowledge the role of trauma in addictive
behaviours, but also to create safe spaces that limit the risks of re-traumatizing participants. One
major barrier to access for addictions services for Aboriginal women has been the impediment of
overly specialized and fragmented services that risk re-traumatizing women by requiring them to
participate in numerous disclosures at multiple intakes (Simpson, 2006). As such, trauma-
informed approaches to conducting research with young Aboriginal women are essential.

In understanding Aboriginal women’s experiences the concept of resilience also needs to
be considered to explore the ways that individuals and communities do well despite enduring
severe hardships, trauma and deprivation (Kirmayer, Dandeneau, Marshall, Phillips, &
Williamson, 2012). Exploring resilience involves considering the “unique dimensions of
development and adaptation that may contribute to human flourishing (Kirmayer, et al., 2012, p.
399). Although traditional psychology approaches to understanding resilience have focused on
individual personality traits or characteristics, resilience has also been conceptualized to have
systemic, collective and communal dimensions (Kirmayer et al., 2012). When looking at
resilience in Indigenous populations, taking into account the dynamic systems that may confer
resilience on individuals, communities and whole peoples in a more holistic way, is particularly
relevant and encouraged (Kirmayer et al., 2012).

Each of the specific social determinants of health for Indigenous women point to potential
sources or strategies for resilience (Kirmayer et al., 2012) and understanding the social
determinants of alcohol and drug use from a perspective of resiliency strategies employed by
young Aboriginal women is a much needed shift in research. As opposed to focusing
exclusively on vulnerability and pathology, a focus on resilience shifts the attention to the
resources, strengths and positive outcomes in these women’s lives (Kirmayer et al., 2012) while
highlighting opportunities to foster and support resilience through policies and interventions.

This section has made clear the scale and scope of the challenges faced by pregnant-involved
young Aboriginal women who use alcohol and drugs as well as important historical and social
factors that shape their experiences. Adopting research frameworks that focus on the social
determinants of health would support a shift towards ecologically-based intervention and
evaluation and away from the generally unsuccessful interventions that target specific health
behaviours or conditions exclusively (Reilly et al., 2011). Ecologically-based methods, which
focus on the contextual factors outside of individual health behaviours, are non-invasive and are
important especially in the Canadian context of an over-researched Aboriginal population (Reilly et al., 2011); this type of research will instead focus on recognizing the social, political and historical contexts of substance use, in an effort to identify effective points of intervention at the population level.

The evidence in Canada overwhelmingly rejects the notion that simply being Aboriginal is a risk factor for poor health; still, the current funding of programmes and policies in Canada continues to reinforce this concept, by prioritizing interventions continually targeted at Aboriginal peoples to help them be healthier. Instead, the evidence consistently points to imposed legislative and social conditions that have resulted in the marginalisation of a vulnerable population in a multitude of complex and interconnected ways. Intervening at the level of these conditions provides a promising direction for promoting health equality among Aboriginal peoples in Canada, including pregnant-involved young women who use substances. In order to do so, however, there is a need to further understand the specific social determinants of health related to alcohol and drug use among pregnant-involved, young Aboriginal women.

Reframing Substance Use among Pregnant-involved Young Aboriginal Women

Forgotten amongst the rhetoric that surrounds the emotive issue of prenatal substance use is the realization that it is rare for a woman to knowingly and willingly harm her unborn child. (Cull, 2006, p. 152)

The issue of substance use during pregnancy has been particularly ostracizing for Aboriginal mothers in Canada. On account of being criticized as inadequate mothers, many are already in a posture of defense, and are often forced to conceal issues related to substance use, instead of seeking help (Cull, 2006). In Canadian society, for middle class people, addiction is conceptualized as a medical condition where the behaviour is beyond their control; for poor, single mothers, especially Aboriginal women, on the other hand, addiction is usually seen as a rational choice (Cull, 2006). The government and media have been passive in acknowledging their roles in perpetuating these stereotypes and their damaging impact, while aggressively pointing out the detrimental role of substance use in the lives of Aboriginal communities, women and mothers (Cull, 2006). This passivity of the state with helping women compared to their focus on criminalizing substance use and misuse is exemplified in the fact that in 2000, 96% of the state’s $454 million budget for substance use went towards enforcement initiatives, while only 4% went towards prevention and treatment (Cull, 2006).
In 2005, the Public Health Agency of Canada released *Fetal Alcohol Spectrum Disorder: A Framework for Action* as a key policy document for addressing the problem of substance use during pregnancy at a national level (Hunting & Browne, 2012). In a discourse analysis, Hunting and Browne (2012) identified three themes that represented the limitations of this Framework: First, it overemphasizes the importance of health education in the absence of addressing the social contexts that lead to addiction, therefore implying that the problem lies in women’s individual choices; second, it positions mothers as intentionally contributing to fetal or child neglect through uncaring and dangerous behaviour; and third, it perpetuates stigmatizing constructions of Aboriginal women as uneducated and dangerous by failing to connect their health experiences with its social and historical contexts (Hunting & Browne, 2012).

In 2008, British Columbia released a similar 10-year Provincial Plan, *Fetal Alcohol Spectrum Disorder: Building on Strengths* (Hunting, 2012). The Plan is relatively progressive in comparison with the Framework (which frames FASD primarily as a child health issue) because it includes a discussion about maternal well-being and the contribution of some social determinants of health (Hunting, 2012). Despite these improvements, the Plan similarly ignores women’s distinct social locations, particularly those of Aboriginal women, and thus perpetuates the idea that FASD is a problem for individual women, while doing little to counter this stigmatization. Likewise, the Plan’s overemphasis on individualized ‘risk factors’ for substance use fails to conceptualize risk as a product of intersecting processes that shape experience, and instead, again locates the ‘problem’ within a universal category of women (Hunting, 2012). And, finally, in the Plan’s discussions around cultural competency and safety, ‘Aboriginal’ is the only named identity category beyond ‘women’, making Aboriginal women hyper-visible and isolated from their social contexts, and re-establishing them as the main problem-holders when it comes to substance use and FASD (Hunting, 2012).

It is evident that discussions about reproductive risk factors or at-risk groups that are removed from their historical, social, and economic contexts serve to reproduce negative stereotypes about Aboriginal women as lascivious or lacking will power, judgement and moral fortitude (Fiske & Browne, 2008). Still, within Canadian social and health policies, such as those informed by the National Framework and the Provincial Plan, pregnant women who use substances are depicted as necessarily indigent, welfare-dependent, possibly homeless, marginalized and more than likely Aboriginal (Fiske & Browne, 2008; Rutman, Field, Jackson, Lundquist, & Callahan, 2005). These health policies and other social discourses serve to
inadvertently erase the credibility of the Aboriginal woman and mother (Fiske & Browne, 2008), while implicating her as intentionally negligent, uneducated and dangerous. Conversely, what is virtually absent in both documents is any discussion of the complex contextual issues related to women’s substance use, including the historical, structural and social contexts that shape, and are shaped by, experiences of substance use during pregnancy. This becomes particularly problematic when considering the fact that despite the tendency of dominant discourses to label substance use during pregnancy as an ‘Aboriginal problem’, there is no aspect of this problem for which the published evidence reflects a strong understanding of Aboriginal people in Canada (Hunting, 2012).

These policy documents highlight an urgent need to counter pathologizing discourses about Aboriginal women’s health and social issues, and to instead shift the focus from ‘unhealthy’ choices made by individual women to the wider contexts and experiences of these women’s lives (Hunting, 2012). A social determinants of health approach to understanding substance use among pregnant-involved young Aboriginal women, that incorporates the Aboriginal-specific determinants of health, has the potential to inform policy and programs to support both women and their children, while refuting the simplistic notion that these factors are either cultural in origin, or more condescendingly, lifestyle choices by a morally flawed race of women (Kurtz et al., 2008; Fiske & Browne, 2008).

In order to improve the health and well-being of Indigenous populations, researchers are pointing towards a need to further understand and act upon the social and economic drivers of health inequalities among these populations (King et al., 2009). Still, health and social programs for Aboriginal peoples in Canada continue to be fragmented, developed without collaboration, and to isolate symptomatic issues through stand-alone programmes that not only ignore the underlying causes of inequality, but also continue to impose so-called solutions on the populations (King et al., 2009). Many contemporary Aboriginal communities in Canada are defined by the enduring impacts of colonization and loss of culture (Mitchell & Maracle, 2005); the causes of poor health of Indigenous peoples are not the usual causes of health disadvantage, but arise instead from general socioeconomic factors in combination with culturally and historically specific factors (King et al., 2009).

Historical, intergenerational, and contemporary impacts of trauma and their intersections, have been stressed as key contributors to the health inequalities between Aboriginal and non-
Aboriginal people in Canada today (Evans-Campbell, 2008; Mitchell & Maracle, 2005). Despite these links, however, substance abuse and addictions issues among Aboriginal peoples are often treated as problems that exist severed from people’s histories and experiences (Haskell & Randall, 2009), while interventions to change individual behaviour reinforce the misconception of problematic health behaviours being rooted in individual character flaws or cultural deficits (Mitchell & Maracle, 2005). This wide-spread victim-blaming ideology, especially in terms of addictions, masks social causation and excuses the larger non-Indigenous community of social responsibility in creating and contributing to health inequities (King et al., 2009). When considering mental health and addictions issues among Indigenous populations then, mediating mechanisms are strongly determined by collective processes in the community or larger political entities, and interventions within Indigenous health are therefore inextricably tied to political implications and contexts (King et al., 2009).

In 2009, Health Canada released a statistical profile on the health of First Nations in Canada, focused on the determinants of health, as defined by the Public Health Agency of Canada (Health Canada, 2009). Research has consistently shown that the health of Aboriginal peoples in Canada continues to be worse than that of the national population (Mitchell & Maracle, 2005; Mundel & Chapman, 2010; Reading & Wien, 2009; Richmond & Ross, 2009), so it is not surprising that First Nations peoples scored consistently lower in all the report’s measured determinants, with First Nations women often scoring the lowest (Health Canada, 2009). The report, however, failed to mention any of the drivers of these inequalities, and instead, perpetuated the ever-present undertone in much of Aboriginal health research that being Aboriginal is, in fact, a risk factor for poor health on its own.

In a similar report also produced in 2009 by the National Collaborating Centre for Aboriginal Health (NCCAH), the story for the proximal determinants of health among Aboriginal peoples in Canada was much the same. Notably, the report also considered the socio-political context within which these determinants operate, as well as the intermediate and distal determinants of health, all of which were neglected by the Health Canada report (Reading & Wien, 2009). Most pertinently, these additions considered the impacts of historical and contemporary colonialism, racism and social exclusion and self-determination on the health status of Aboriginal peoples in Canada (Reading & Wien, 2009). Much of the criticism of the official list of Canadian health determinants is its inability to account for the contexts within which the determinants of health and social inequalities are produced and sustained, specifically
in the context of Aboriginal populations where these determinants are “entrenched in unequal power relations and a history of colonization” (Richmond & Ross, 2009, p. 405).

Failure to acknowledge the significance of Aboriginal women’s histories and the long-term impacts of domination and cultural genocide, decidedly limits current explanatory frameworks for understanding these health inequalities, and has led to inadequate health interventions (Mitchell & Maracle, 2005). Accordingly, researchers and communities alike are calling for an end to the constant describing and quantifying of the “Aboriginal health problem” (Richmond & Ross, 2009), and support instead shifting the focus from the specific determinants of health to the drivers of the inequalities themselves (Richmond & Ross, 2009). However, current understandings of Aboriginal women’s substance abuse lack consideration of the complex historical influences on both women and their communities. Because this historical context continues to be an important factor influencing Aboriginal women’s present day lives, in addition to other social determinants of health, it is necessary to use an Indigenous model of the social determinants of health that necessarily attends to the Aboriginal-specific determinants of health, while also accommodating the intersecting, and complex nature of these determinants.

In the following section, I will explore the potential of the following theories in contributing to a reframing Aboriginal women’s substance use: a) post-colonial theory; b) intersectionality; c) different addiction theories; d) an Indigenist stress coping model of addiction; and e) the use of an Aboriginal social determinants of health model.

Post-colonial theory

The disadvantages and economic and political conditions facing many Aboriginal women in Canada today are historically mediated, and persistent inequities in health and social status are the downstream indicators of these longstanding, underlying imbalances in relations between Aboriginal people and the broader society (Browne, Smye & Varcoe, 2005). When considering research with Aboriginal women, postcolonial perspectives provide both the analytical framework and vocabulary for understanding how the socio-historical-political contexts contribute to the health, healing and human suffering of the research participants (Browne, et al., 2005; Downing & Kowal, 2011; Kelly, 2013).

Postcolonial theories, as a family of theories, are concerned with how the history and legacy of colonialism continue to shape people’s lives, well-being and life opportunities (Browne et al., 2005). Despite emerging from various disciplines and perspectives, the theories
converge on several key points. Namely, the explicit attention to the interrogation of the colonial past and its subsequent manifestations in today’s context, and the deliberate goal of decentralizing the dominant culture to allow for marginalized perspectives to serve as the starting points for knowledge construction (Anderson, 2008; Anderson, 2002; Browne, et al., 2005; Downing & Kowal, 2011; Kelly, 2013). It is important to note that the use of the term “post” in post-colonialism is not intended to imply that colonialism is something in the past or something that is finished or over. Rather, it is important to understand that the regulation of Aboriginal people’s lives through social policies, the Indian Act, land claims, and the restrictions placed on economic development are vestiges of the colonial past (Browne et al., 2005). However, these vestiges continue to shape life opportunities, economic conditions, and the overall health status of individuals, families and communities, while new racisms and oppressions are also being formed (Browne et al., 2005).

Postcolonial theory’s distinction from other families of critical thought is its focus on the disruption of the structural inequities resultant from histories of colonization and ongoing neo-colonial practices (Browne et al., 2005). It is precisely this focus, and the particular analytical dimensions of postcolonial theory that make it particularly applicable to research that attempts to redress the health inequities experienced by Aboriginal women. As Browne et al. (2005) explain:

*These analytical dimensions focus attention on the various forms of inequities organized along axes of race, culture, gender, and class; the damaging effects of culturalist discourses; the significance of people’s individual and collective histories and people’s socio-historical positioning in society; and the development of knowledge that can disrupt racializing policies and practices.* (p. 22)

While postcolonial theory provides an ideal approach for examining the burden of history on Aboriginal women and how it shapes present-day experiences (Browne et al., 2005), it is important to engage with it in a mindful and critical way. When conducting research with Aboriginal women, researchers must be mindful to avoid creating superficial binary oppositions, or essentializing a collective and shared experience of colonization among members of a group (Browne, et al., 2005; Downing & Kowal, 2011; Kelly, 2013). In explanation, it is important to recognize that privilege and penalty rarely operate in clear-cut dichotomies and that social
categories are not clearly defined but rather operate on a shifting landscape based on complex and ambiguous social locations (Browne et al., 2005).

In a system where people are frequently confronted with the images of Aboriginal women who embody manifestations of social problems and impoverishment, vigilant research that is praxis-orientated and that locates these health and social conditions within the historical and social disadvantages that shape them is essential (Browne et al., 2005). By employing a postcolonial approach to research with Aboriginal women, while also acknowledging and exploring the multiple layers of risk and disadvantage that are produced by intersecting forms of oppression and opportunity, this research project has the potential to disrupt inequities that have become part of the status quo (Browne, et al., 2005; Downing & Kowal, 2011; Kelly, 2013). Intersectionality theory provides the framework for understanding and conceptualizing these intersections, and their complex influences on the lives of pregnant-involved young Aboriginal women who use alcohol and drugs.

**Intersectionality**

Intersectionality in Canada has emerged as a response to a growing sense that current approaches to health inequities are limited for exploring the multifactorial and multi-level complexities of health disparities, and therefore cannot identify effective strategies to reduce them (Dhamoon & Hankivsky, 2011). Advocates for using intersectionality approach argue that traditional frameworks rely on fragmenting vulnerabilities into distinct categories, such as sex/gender, or race/ethnicity. This subsequent prioritizing of one category over others, results in a failure to fully consider and analyze the full context of influences from different vulnerabilities that create subsequent social power inequities (Hankivsky, 2012). The three key assumptions of an intersectionality approach are the pursuit of social justice as a main objective, the conceptualization of identity and social categories of difference as being complex and created by unique social locations, and the notion of power as central in its role in creating and perpetuating the personal and social structures of discrimination and oppression (Hankivsky & Cormier, 2009).

Intersectionality provides a “new order of complexity for understanding how sex and gender intersect with other dimensions of inequality, particularly historic and geographic contexts, to create unique experiences of health” (Hankivsky, 2012, p. 1713). In terms of the social determinants of young Aboriginal women’s health - which are complex, varied and fluid- the notion of intersectionality is compelling. In particular, an intersectionality approach provides
direction for conceptually dealing with the contributions of the social determinants of health and issues of power and subordination to the issue of substance use among Aboriginal young women, while not sacrificing any of the complexity and fluidity of these moving parts for the sake of research ease.

When exploring the social determinants of alcohol and drug use among pregnant-involved young Aboriginal women, it is the recognition of relationality inherent in intersectionality theory that complements the growing acknowledgement of the complexity and multiplicities involved (de Leeuw & Greenwood, 2011). In the context of intersectionality theory relationality is concerned primarily with the interactions between multiple social positions and how these interactions confer or detract from social power (deLeeuw & Greenwood, 2011). It is clear that young Aboriginal women’s social positions cannot be understood exclusively by an analysis of cultural differences, much the same as a focus on gender inequality is equally inadequate (Hankivsky & Cormier, 2009). To be an “Indigenous woman” in Canada is complicated by the differential and complex nature of marginalization experienced by different Aboriginal peoples and “these social realities are lived, in various configurations and to varying degrees, as embodied and individualized realities, and they are experienced differently depending on the “who’s” and “how’s” of the person experiencing them” (de Leeuw & Greenwood, 2011, p. 57). This commitment to diversity within social categories is especially important when exploring substance use among Aboriginal women because it avoids the re-stigmatization of this group as substance abusers, while also leaving space to explore issues of resiliency and healing among women who do not use substances. The processes of categorizing and socially engineering groups of people for the purposes of management are hallmarks of colonialism practices with Indigenous peoples in Canada (de Leeuw & Greenwood, 2011). Using an intersectionality lens to differentiate the nature of healthiness and unhealthiness between peoples and communities, but also how these factors are lived differently based on the unique ways they collude and/or are embodied within individuals, provides a logical and empowering way to understand the social determinants of alcohol and drug use among young Aboriginal women in Canada today (de Leeuw & Greenwood, 2011).

Post-colonial and intersectionality theories provide perspectives for understanding the unique social locations of young Aboriginal women who use substances in a way that is respectful, empowering and conducive to reframing substance use during pregnancy within the contexts of these women’s life experiences.
Addiction theories

There are five major theories about the causes of addiction: the medical model, the psychodynamic model, the social model, the moral model and the bio-psycho-social model. Although Canadian policies and programs have been predominantly guided by the medical model and/or the moral model, all of these models fail to account for the complexities associated with substance use among pregnant-involved young Aboriginal women. Each of the models is briefly described below, along with its relevance to understanding substance use by young Aboriginal women. Finally, an Indigenist model of addictions is discussed.

The medical model, often referred to as the disease model, classifies addiction as a chronic, relapsing brain disease, which is defined by the presence of a biological basis for the disease, a genetic predisposition to addiction, and the influence of a person’s behaviour (Chez et al., 2001). This model has garnered wide acceptance and has been viewed with optimism in that it presumes that addiction can be cured, or at the very least managed, like other diseases through behaviour changes, much like high blood pressure or diabetes. However, as seen in the FASD policy documents, this model emphasizes the role of the individual, while ignoring all the structural, social, economic and historical contexts that are paramount to an understanding of substance use among pregnant-involved young Aboriginal women. Additionally, this individualistic and clinical model of addictions is completely at odds with Indigenous notions of health and well-being which are holistic and inclusive of multiple levels of family and community.

The psychodynamic model, or psychological model, on the other hand, purports that substance users are self-medicating due to underlying psychological problems (Covington, 1998). The drug use is viewed as a maladaptive psychological coping strategy, and there is a need to resolve the internal conflict in order to render the drug use unnecessary. While this model is promising in terms of understanding the psychological dimensions of substance use during pregnancy, the model still locates the problem as being internal to the individual, and does not account for the external influences which impact the psychological well-being of young Aboriginal women in the first place.

The social model of addiction does not conceptualize addiction as a disease, but rather as a way of adapting to desperately difficult situations (Alexander, 1988). Therefore, the addiction cannot be overcome until there are better alternatives available, where adaptive strategies are no
longer necessary (Alexander, 1988). Additionally, the social model conceptualizes drug use as a learned coping behaviour that is modeled by others, or is introduced through peer pressure. While this model acknowledges the impact of social conditions, in contrast to the previous two models, its singular focus on the social influences completely negates individual agency which is also problematic when examining substance use among Aboriginal women as it depicts women as necessarily passive products of their environments.

The moral model of addiction is the operating model of the criminal justice system, and also guides many of the substance use and addictions policies and programs in Canada today. In this model, addiction is viewed as an individual’s weakness to resist the use of alcohol and/or drugs. In keeping with this, the model stipulates that the individual should be able to overcome the compulsion to use substances through the use of willpower. Addiction is viewed as a choice, where drug use is viewed as morally flawed and drug abusers deserve to be punished accordingly. Given the incredibly complex issues involved in substance use among pregnant-involved young Aboriginal women, this model is very clearly discriminatory, and inappropriate.

The bio-psycho-social model conceptualizes addiction as a complex interaction between the biological, psychological and social spheres of a person’s life. It is most widely endorsed by researchers because it takes into consideration the intricate and complex nature of addictions, and supports the idea that addiction problems are multidimensional (Donovan, 1988; Wallace, 1990). This model of addictions also supports the evidence that the social determinants of health play a large role in substance use, while acknowledging the fact that previous models cannot be universally applied to all substance users. Given the complex and interrelated influences on substance use during pregnancy among young Aboriginal women, the bio-psycho-social model of addictions seems well-suited to research with Aboriginal women. However, one major shortcoming with this model is that it does not acknowledge an “Indigenist” perspective.

**Indigenist stress-coping model of addictions**

The Indigenist Stress-Coping Model of addictions situates Aboriginal women’s health within the larger context of their status as a colonized people (Walters & Simoni, 2002). Figure 2 shows that the model posits that the effect of life stressors (such as historical trauma or traumatic life events) prompt coping behaviours that result in certain health outcomes, in this case, alcohol and/or drug dependence. This model stipulates that this relationship can be mediated through cultural buffers such as identity attitudes and connections with traditional ways
of life (Walters & Simoni, 2002). The model’s major strengths in terms of examining substance use during pregnancy among Aboriginal women are its use of Indigenist perspectives, and its delineation of “the pathways between social experiences and health outcomes, thus providing a coherent means of integrating social, psychological, and cultural reasoning about discrimination and other forms of trauma as determinants of health” (Walters & Simoni, 2002, p. 521).

![Indigenist Stress-Coping Model](image)

**Figure 2**: The Indigenist Stress-Coping Model.

Within this model, there is room to examine environmental, social and individual factors, as well as psychological factors within the historical, political and social contexts necessary for research with Aboriginal women. The Indigenist stress-coping model is complementary to an examination of the social determinants of substance use among pregnant-involved young Aboriginal women, as such an examination will help to understand the root causes of the life stressors for these women, as well as to understand how these stressors impact women’s lives and health outcomes.
An Aboriginal social determinants of health model

As previously discussed, substance use and addiction issues for Aboriginal women in Canada are directly connected to the cumulative effects of colonization (Hunting & Browne, 2012). Intergenerational traumas, systemic discrimination and displacement are the downstream effects of colonization, and experiences of racialization, discrimination, poverty and interpersonal violence often define the life experiences of Aboriginal women who use substances (Hunting & Browne, 2012). Given these unique social and historical conditions, it is not surprising that the social determinants of Aboriginal women’s health are not the usual determinants of health, and therefore must instead be understood from an Aboriginal-specific perspective.

The social determinants of health are understood as the circumstances within which people are born, live, work, grow and age and that are responsible for many of the health inequities observed between different populations (Halseth, 2013; Reading & Wien, 2009). These determinants typically include early child development, education, income, employment, the nature of social and physical environments, personal health practices and coping skills, access to health services, racism and gender (Halseth, 2013; Reading & Wien, 2009). In addition, Aboriginal-specific determinants have been identified and include the social, political and historical contexts that also contribute to contemporary Aboriginal health, subsequent to and resulting from the practices of colonialism (Reading & Wien, 2009).

It is clear that the complex interaction between these various determinants creates a trajectory of health for Aboriginal women that must be addressed through an Aboriginal-specific social determinant of health approach (Reading & Wien, 2009). The Integrated Life Course and Social Determinants Model of Aboriginal Health conceptualizes the origin and influence of social determinants of health within distal, intermediate and proximal domains, and draws upon Marmot’s (2007) reference to a need to understand the “causes of causes” (Reading & Wien, 2009) (Figure 3). As the authors explain: “[p]roximal, intermediate and distal social determinants are filtered through socio-political contexts, life stages and health dimensions (physical, emotional, mental and spiritual) to shape overall well-being” (Reading & Wien, 2009, p. 26).
Figure 3. The Integrated Life Course and Social Determinants of Health Model of Aboriginal Health.


The distal determinants of health are understood as having the most profound influence on health, because they represent the political, economic and social contexts that construct both intermediate and proximal determinants (Reading & Wien, 2009). These include colonialism, racism and social exclusion, as well as repression of self-determination (Reading & Wien, 2009). Intermediate determinants are thought of as the origin of proximal determinants and include health care systems, educations systems, community infrastructure, environmental stewardship and cultural continuity (Reading & Wien, 2009). Finally, proximal determinants are conditions that have a direct impact on physical, emotional, mental or spiritual health and include issues such as housing quality, living conditions, family violence, health behaviours, employment, income and food insecurity (Reading & Wien, 2009). All of these determinants are understood within the socio-political context of being Aboriginal in Canada, as well as in relation to overall wellness across the life course.
This model reflects the multi-dimensionality of health and its social determinants, while also highlighting their interrelated relationships (Reading & Wien, 2009). Of most relevance to this research project, this model reflects and accommodates the “complex and dynamic interplay of social, political, historical, cultural, environmental, economic and other forces that directly and indirectly shape Aboriginal health” (Reading & Wien, 2009, p. 26). Using this model to inform and frame this research project will help to address current information gaps in substance use and addictions research with pregnant Aboriginal young women. By examining the multiple social locations and processes involved in substance use during pregnancy, women’s health outcomes can be contextualized in the reality of their life experiences (Hunting & Browne, 2012). The discourses of loss, impermanence and socially debilitating marginalization among Aboriginal peoples in Canada have been treated, at best, as marginal by Western historical memory, and at worse, have been completely absent in discussions about Aboriginal women and substance use (Wesley-Esquimaux, 2009). As such, it is particularly important this research pays attention to the Aboriginal-specific social determinants of health, to ensure that examinations of these determinants are not ignored in efforts to understand the social locations of many young Aboriginal women who use substances.

By using an Integrated Life Course and Social Determinants of Health Model of Aboriginal Health that is informed by post-colonial and intersectionality theory, with the understanding that addictions and substance use are a coping response to life’s stressors and traumas, this research project explored the social determinants of alcohol and drug use among pregnant-involved young Aboriginal women. Combining postcolonial and intersectionality approaches, the Indigenist Stress Coping Model and the Integrated Life Course and Social Determinants of Health Model of Aboriginal Health provided the necessary framework for exploring young Aboriginal women’s life experiences in their social contexts in order to inform future policies and interventions that can support women’s well-being and prevent the intergenerational perpetuation of harms.

**Systematic Literature Review**

To inform this research, a systematic literature search was conducted to identify empirical research that has been undertaken to identify or understand the social determinants of substance use among Aboriginal women. Figure 4 describes the search strategy process in detail. The research questions guiding the search were: 1) How have the social determinants of health been conceptualized in research examining substance use among Aboriginal girls and women and 2) What are the quality issues and gaps in this knowledge? For the purposes of this search, the
social determinants of health were defined as including those found on the official list adopted by Health Canada (Bryant et al., 2011; Raphael, Curry-Stevens & Bryant, 2008) including age, sex and gender, income, housing and employment, and was also expanded to include Aboriginal-specific determinants of health including experiences of abuse and trauma, colonialism, and intergenerational impacts of historical and political processes involving Aboriginal peoples.

Methods

To identify relevant studies, seven databases (Medline OVID SP, Psychinfo EBSCO, CINAHL EBSCO, EMBASE, Canadian Research Index, Canadian Health Research Collection, Google Scholar) were searched with multiple iterations, subheadings and topic headings and combinations in an effort to capture studies that addressed the following subject headings in combination: “Substance use” AND “girls or women or female” AND “Aboriginal”. Each database used various subject headings and terms to identify these overarching concepts. Journal articles were limited to those studies that were reported in English (as no translation services were available to the author), had an abstract available (in an effort to identify empirical research) and were in peer-reviewed sources. The search strategy identified 261 sources initially. The duplicates were removed, and remaining sources were first screened by abstract and then full readings of the papers, according to the selected inclusion and exclusion criteria (Figure 4).

The methodological quality of each study was rated using a model that was developed by the National Institute for Health and Clinical Excellence (NICE) as a tool for identifying and developing public health guidelines (NICE, 2009). The model provides specific instructions and checklists to evaluate the studies and provides a summary “grade” for internal and external validity for quantitative studies and for overall quality for qualitative studies (Table 1). Mixed methods studies were evaluated using both checklists for each portion of the study, respectively. The studies were evaluated by the author twice, with a one month interval, to ensure consistency in assigned scores and in completion of the checklists.
Figure 4. Systematic Literature Review Search Strategy

Inclusion Criteria:
1. Empirical Research
2. Focus on Aboriginal girls and/or women as distinct population
3. Research directly examining relationship between a suspected social determinant and alcohol and/or illicit drug use.

Exclusion Criteria:
1. Results are not reported separately for Aboriginal girls and women (e.g., appear as part of a larger target group).
2. Research that examines the clinical determinants of alcohol and/or illicit drug use (e.g., BMI, gravidity, genetic predisposition, precursor drug use, rate of alcohol use etc.)
3. Research that examines social determinants of health and alcohol and/or illicit drug use patterns in relation to another health outcome (e.g., trauma and drug use's effects on HIV risk).
Table 1 *Scoring Criteria for Evaluating Study Quality in Systematic Literature Review*

<table>
<thead>
<tr>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>++</strong></td>
<td>Indicates that for that particular aspect of the study design, the study has been designed and/or conducted in such a way as to minimise the risk of bias.</td>
</tr>
<tr>
<td><strong>+</strong></td>
<td>Indicates that either the answer to the checklist question is not clear from the way the study is reported, or that the study may not have addressed all potential sources of bias for that particular aspect of study design.</td>
</tr>
<tr>
<td><strong>-</strong></td>
<td>Should be reserved for those aspects of the study design in which significant sources of bias may persist.</td>
</tr>
<tr>
<td><strong>NA</strong></td>
<td>Should be reserved for those study aspects which are not applicable given the study design under review (for example, allocation concealment would not be applicable for case-control studies).</td>
</tr>
<tr>
<td><strong>NR</strong></td>
<td>Should be reserved for those aspects in which the study under review fails to report how they have or might have been considered.</td>
</tr>
</tbody>
</table>

For **Qualitative Studies**:

<table>
<thead>
<tr>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>++</strong></td>
<td>All or most of the checklist criteria have been fulfilled, where they have not been fulfilled the conclusions are very unlikely to alter</td>
</tr>
<tr>
<td><strong>+</strong></td>
<td>Some of the checklist criteria have been fulfilled, or not adequately described, the conclusions are unlikely to alter</td>
</tr>
<tr>
<td><strong>-</strong></td>
<td>Few or no checklist criteria have been fulfilled and the conclusions are very likely to alter</td>
</tr>
</tbody>
</table>

*Note.* Adapted from “Methods for the development of NICE public health guidance (third edition),” by National Institute for Health and Care Excellence (NICE), 2012, p. 214-222. Copyright 2012 by NICE.
Results

The initial search yielded 261 articles. After screening the papers’ abstracts, 233 articles did not meet the inclusion/exclusion criteria (Figure 4), and the remaining 28 articles were read in detail and screened, to arrive at the final included articles. References of the 28 articles were also searched to identify any missing, relevant articles. Sixteen journal articles were included in the final review: Fourteen were quantitative studies; one was a qualitative study; and one was a mixed methods study. The studies were all published during the period of 1997 to 2011. Eleven of the studies were conducted in the USA and five in Canada - with one study in Quebec, and the rest in British Columbia (Table 2). Overall quality assessment scores were determined for all the studies included in the review using the criteria in Table 1 and are shown in Figure 5.

Figure 5. Quality Assessment Scores for All Reviewed Studies
<table>
<thead>
<tr>
<th>Author, year</th>
<th>Sample Description</th>
<th>Study Design</th>
<th>Substance Use Type</th>
<th>Quality Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barlow et al., 2010</td>
<td>Expectant American Indian adolescents; 14-35 weeks gestation; participating in in-home intervention “Family Spirit”; 12-19 years old; N=322</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/++</td>
</tr>
<tr>
<td>Bohn, 2002</td>
<td>Expectant American Indian adolescents and women; 3rd trimester; receiving prenatal care at clinic; 14-37 years old; N=30</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/++</td>
</tr>
<tr>
<td>Bohn, 2003</td>
<td>Expectant American Indian adolescents and women; 3rd trimester; receiving prenatal care at clinic; 14-37 years old; N=30</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/++</td>
</tr>
<tr>
<td>Callaghan et al., 2006</td>
<td>Aboriginal adults; currently in AOD treatment; 18+ years; N=751 (296 women, 455 men)</td>
<td>Quantitative, correlation</td>
<td>Alcohol</td>
<td>++/++</td>
</tr>
<tr>
<td>Herbert &amp; McCannell, 1997</td>
<td>First Nations women; in recovery from both substance use and childhood sexual abuse; 18+ years; N=6</td>
<td>Qualitative, interviews</td>
<td>Alcohol</td>
<td>++</td>
</tr>
<tr>
<td>Mehrabadi et al., 2008a</td>
<td>Urban, Aboriginal young women; smoked or injected drugs in last month; 14-30 years old; N=262</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/+</td>
</tr>
<tr>
<td>Mehrabadi et al., 2008b</td>
<td>Urban Aboriginal youth; smoked or injected drugs in last month; 14-30 years old; N=543 (260 women, 278 men)</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/+</td>
</tr>
<tr>
<td>Muckle et al., 2011</td>
<td>Pregnant Inuit women; referred after first prenatal visit; average age 24.9 years; N=248</td>
<td>Quantitative, correlation</td>
<td>Alcohol</td>
<td>++/+</td>
</tr>
<tr>
<td>Mylant &amp; Mann, 2008</td>
<td>Pregnant and parenting American Indian adolescents; low-income; being served by adolescent pregnancy program; N=186</td>
<td>Quantitative, correlation</td>
<td>Alcohol</td>
<td>+/+</td>
</tr>
<tr>
<td>Oetzel et al., 2007</td>
<td>American Indian women; accessed primary care at Indian Health Services centre; 18-45 years old; N=169</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/+</td>
</tr>
<tr>
<td>Parker et al., 2010</td>
<td>American Indian mothers; matched pairs between mothers of children sent for FASD diagnostics, and mothers who were not; N=185</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
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<tr>
<td>Peterson et al., 2002</td>
<td>American Indian women; currently receiving alcohol and/or drug treatment at an Indian Health Services facility; N=9 treatment facilities; cluster sampling</td>
<td>Mixed Methods</td>
<td>Alcohol</td>
<td>++/+, +</td>
</tr>
<tr>
<td>Saylor &amp; Daliparthy, 2005</td>
<td>American Native women; presenting at the “Family &amp; Child Guidance Clinic”; 18+ years; N=184</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/++</td>
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<tr>
<td>Simoni et al., 2004</td>
<td>American Indian women; members of an American Indian community centre; 18-87 years old; N=155</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/++</td>
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<tr>
<td>Stevens, 2001</td>
<td>American Indian women; had not been in treatment in previous 30 days; had used drugs or had sex with IDU in previous 30 days; 18+ years; N=87</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>+/</td>
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<tr>
<td>Walters &amp; Simoni, 1999</td>
<td>Urban American Indian women; attended Indian community gathering; 18+ years; N=68</td>
<td>Quantitative, cross-sectional</td>
<td>Alcohol</td>
<td>++/++</td>
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The populations of interest and subsequent sample definitions varied for the research studies as follows: pregnant Aboriginal teens (Barlow et al., 2010; Mylant & Mann, 2008); pregnant or parenting Aboriginal women, generally (Bohn, 2002; 2003; Muckle et al., 2011; Parker et al., 2010); Aboriginal women currently in alcohol and/or drug treatment (Callaghan et al., 2006; Saylors & Daliparthy, 2005; Peterson et al., 2002); Aboriginal women in recovery (Herbert & McCannell, 1997); young, urban Aboriginal population (Mehrabadi, et al., 2008a; Mehrabadi, et al., 2008b); Aboriginal women who accessed a primary care or health service of interest (Oetzel, et al., 2007; Parker, et al., 2010); members of an American Indian community centre (Simoni, Sehgal & Walters, 2004; Walters & Simoni, 1999); and, an adult, urban population of Aboriginal women (Stevens, 2010). The most frequently included subgroup of Aboriginal women in the studies was pregnant and or parenting Aboriginal teens and women. All of the studies either explicitly or implicitly approached addictions from a bio-psycho-social model of addictions, except for three studies which were informed by the Indigenist Stress Coping Model of addictions (Mehrabadi et al., 2008a; 2008b; Simoni, Sehgal & Walters, 2004). Substances of interest included injection drugs, smoked drugs, opiates, crystal methamphetamine, cocaine, and alcohol.

**Conceptualizing the social determinants of substance use.**

Among the 16 studies, seven categories of social determinants of substance use were identified: socio-demographics; trauma; gender; social environments; colonialism; culture; and, employment (Table 3).

**Socio-demographics.**

In ten studies the influence of socio-demographics on substance use was explored. In all of the studies, the sample populations used were fairly homogenous for most social indicators, with most of the studies’ participants reporting being single, having high rates of poverty, and low levels of education. Parker et al. (2010) examined socio-demographics exclusively. When comparing self-reported current drinking problems between mothers whose children had been referred for fetal alcohol spectrum disorder (FASD) diagnostic screening to women whose children had not been referred, Parker et al. (2010) examined age and education as possible social determinants. While these variables may seem limited, women in this study were from a fairly homogenous community, and the comparison groups were created by matching mothers with children of the same age and gender for the analysis (Parker et al., 2010). Interestingly, however, even within this mostly homogenous group, education levels were significantly higher
among mothers whose children had not been referred to FASD screening (Parker et al., 2010). Three other studies also reported a significant relationship between higher education and lower levels of substance use (Barlow et al., 2010; Oetzel et al., 2007; Simoni et al., 2004).

Age was also an important factor. Significant relationships were found between earlier initiation of substance use and substance use problems later in life (Barlow et al., 2010; Muckle et al., 2011), and recent binge drinking was significantly associated with younger age (Simoni et al., 2004). Other significant findings included living in more than four homes as associated with lifetime methamphetamine use among expectant American Indian teens (RR=1.98, p<0.05) (Barlow et al., 2010) and single motherhood, fewer children and living in less crowded houses as associated with binge drinking during pregnancy among pregnant Inuit women (p<0.05) (Muckle et al., 2011).
Table 3 Social Determinants of Health Included in Each Study, and their Conceptualizations

<table>
<thead>
<tr>
<th>Author, year</th>
<th>Demographics</th>
<th>Trauma</th>
<th>Gender</th>
<th>Social Environments</th>
<th>Colonialism</th>
<th>Culture</th>
<th>Employment</th>
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<td>Total</td>
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</table>
Trauma.

Trauma as a social determinant of substance use was conceptualized as a response to some form or forms of abuse, and the abuse measures among the studies were aggregated by type (e.g., sexual, physical, emotional, neglect), by time (e.g., childhood, past, current), and in some cases by perpetrator (e.g., intimate partner violence [IPV], spousal abuse, known perpetrator, stranger). Nine of the included studies examined the influence of trauma on substance use.

The findings from all of the studies were consistent in describing disturbingly high rates of violence in Aboriginal women’s lives. In the study by Bohn (2002; 2003), women’s experiences of multiple abuses were measured by creating a variable that counted each perpetrator of childhood or adult physical or sexual abuse as a discrete event. Among the pregnant American Indian adolescents and women participants (n=30) in the study, 70% had been multiply abused (i.e., having experienced more than one type of abuse, including sexual, physical, and/or emotional abuse), while 87% had experienced any type of abuse, and over two thirds of the participants were currently in abusive relationships (Bohn, 2002; 2003). The reported rates of abuse were similarly high among in-treatment sample of American Indian women (n=184): 85% reported physical abuse; 100% had been emotionally abused, and 65% had been abused sexually (Saylors & Daliparthy, 2005). In a US study, Walters and Simoni (1999) hypothesized that alcohol and drug use mediates the pathway between non-partner sexual assault and sex risk behaviors. While their analysis of their survey data of urban American Indian women (n=68) supported their hypothesis, with alcohol and drug use significantly mediating the relationship between sexual assault and sex risk behaviors (p<0.000), the cross-sectional nature of the data limited inferences about the direction of causality.

While the cross-sectional design of all of the included studies prevented any analysis of temporality or causality for most variables, the use of measures specifically identifying childhood abuse (Bohn, 2002; 2003; Herbert & McCannell, 1997; Peterson et al., 2002; Saylors & Daliparthy, 2005; Stevens, 2001) permitted some assumptions about temporality. Given the high rates of childhood victimization, it could be concluded that for many of the participants in these studies, experiences of childhood abuse preceded experiences of alcohol and/or drug use. In fact, in the qualitative research on the topic, the findings from both Herbert and McCannell (1997) (all six women reported experiences of childhood sexual abuse) and Peterson et al. (2002) (81% of participants had been abused as children, and 78% experienced abuse as an
confirmed these assumptions, with participants explicitly identifying substance use as a coping mechanism to numb or soothe the stress and pain associated with experiences of abuse.

Trauma was the exclusive social determinant related to substance use included in three of the studies (Bohn, 2003; Mylant & Mann, 2008; Saylors & Daliparthy, 2005), while other social determinants related to substance use were also included in the remaining studies that examined the influence of trauma. The topic of trauma was also explored within studies in which a gender-lens was applied to understanding substance use among Aboriginal women.

**Gender.**

Aboriginal women’s experiences with substance use were explored through a gender-lens in three studies (Callaghan et al., 2006; Herbert & McCannell, 1997; Mehrabadi et al., 2008b). When comparing in-patient Aboriginal men and women (455 vs. 296), Callaghan et al. (2006) found that women had significantly different substance use patterns than men (with more frequent opiate use), were typically younger, and had higher rates of history of physical and sexual abuse. In Mehrabadi et al.’s (2008b) comparison of young urban Aboriginal men and women (278 vs. 260), women were also significantly less likely than men to have recent paid legal work, to be employed in general, to live in unstable housing or to live on the street, and they were significantly more likely to be on welfare, to have attempted suicide, and were six times more likely to have been sexually abused in their lifetime (Mehrabadi et al., 2008b).

In exploratory interviews with six women in recovery from substance use and childhood sexual abuse, however, Herbert & McCannell (1997) found that participants did not identify gender as an important issue in their experiences. When researchers explored the topic in interview, participants identified racism as a more pressing issue than gender (Herbert & McCannell, 1997). Further research is clearly needed to understand Aboriginal women’s understandings of the influence of gender-related factors to substance use, as well as how they see gender influencing other facets of their lives.

**Social environments.**

The relationship between Aboriginal women’s social environments and substance use patterns was explored in two studies. While in Barlow et al. (2010) the relationship between family functioning and lifetime and pregnancy drug use by pregnant American Indian teens was examined, the relationship between different types of social supports and substance use among
Aboriginal women presenting for primary care services at an Indian Health Services (IHS) hospital was examined in Oetzel et al. (2007).

In the Barlow et al. (2010) study, the research was based on the “Patterson Theory” (Patterson, DeBaryshe, & Ramsey, 1989) that stipulates that ineffective parenting mediates a variety of poor child behavior outcomes, while effective parenting is protective. The hypothesis of the study was that poor family functioning (measured using a subscale of “Problem Oriented Screening Instrument for Teens” [POSIT], parental alcohol abuse, and a family history of suicide (both measured using the “Voices of Indian Teens” survey instrument)) would all be associated with lifetime methamphetamine use as well as substance use during pregnancy (Barlow et al., 2010). The findings from the study showed that expectant teens (N=322) who reported growing up in families with poor functioning and high conflict (parents frequently argued, yelled) were more likely to report lifetime methamphetamine use and pregnancy drug use. Expectant teens were also more likely to report pregnancy drug use if they reported having parents with alcohol problems (RR=1.76, p<0.05) or familial histories of suicide (RR=2.22, p<0.05) (Barlow et al., 2010). These findings were consistent with child development theories as well as stipulations around the perpetuation of harms across generations.

In the Oetzel et al. (2007) study of American Indian women aged 18–45 (n=169), social support was conceptualized as including emotional support and instrumental support and social undermining was defined as experiencing critical appraisal and isolation. All variables were measured using 20 questions derived from the “National Comorbidity Instrument” that was tailored specifically for American Indian populations and validated through another project (Oetzel et al., 2007). A positive significant relationship was observed between emotional support (3.8-fold prevalence ratio), critical appraisal (2.6-fold prevalence ratio) and isolation (3.59-fold prevalence ratio) and substance abuse disorders (Oetzel et al., 2007). On the other hand, every unit increase in instrumental support was associated with an 80% decreased prevalence ratio of substance abuse disorders (p<0.001). The findings from this study, therefore, suggested that a key factor in supporting Aboriginal women who use substances may be to have someone who can offer tangible support, while findings related to critical appraisal suggested that shaming and talking-down to substance users was associated with increased substance use (Oetzel et al., 2007).
Although both of the included studies had different approaches to conceptualizing the relations of social environments to substance use among Aboriginal women, findings supported the fact that family and peer environments were related in important ways to substance use.

**Colonialism.**

Measures of the downstream relations of colonialism were included as variables in three of the studies (Mehrabadi et al., 2008a; Oetzel et al., 2007; Simoni et al., 2004). In all three studies, colonialism was measured using questions about residential school/boarding school attendance or family histories of attendance, and adoption and foster care involvement was measured in two studies (Mehrabadi et al., 2008a; Simoni et al., 2004). Mehrabadi et al. (2008a) found that among young urban Aboriginal women who used drugs (n=262), over two-thirds of women reported having been taken away from their biological parents, and over 40% reported knowing that their parents attended a residential school. In a survey of American Indian women who were members of an American Indian community center (n=155) to determine the rates and correlates of sexual and physical trauma, substance use, and sexual risk behaviors, Simoni et al. (2004) also reported on rates of adoption and foster-care involvement (13%, with 95% going to non-American Indian families), as well as attendance at Indian boarding schools (6%) among their sample. They found that having been adopted was significantly associated with non-partner physical trauma (p<0.001), which was significantly associated with having six or more drinks containing alcohol on one occasion in the past year (p<0.05), as well as with injection drug use (p<0.01). Finally, among American Indian women presenting for primary care at an IHS hospital (n=169), 46.2% of respondents reported having attended a boarding school, which researchers considered particularly high given the fact that respondents were between 18 and 45 years old (Oetzel et al., 2007). In light of their findings that social support, including culturally appropriate social support, could buffer trauma experiences and subsequent substance use issues (Oetzel et al., 2007), the detrimental impact of boarding school attendance on these types of cultural connections is an important consideration.

None of the studies, however, directly tested for associations between these colonialism measures and substance use, despite observations that women still reported being deeply affected by the processes of colonialism. Measures that consider the relationship between colonialism and substance use are important variables to include in an effort to contextualize women’s experiences within Aboriginal-specific determinants of health.
Culture and beliefs.

The relationship between culture and substance use among Aboriginal women was explored in two studies with completely opposite hypotheses (Barlow et al., 2010; Muckle et al., 2011). Barlow et al. (2010) hypothesized that traditional cultural beliefs and practices would be protective in terms of lifetime methamphetamine use and pregnancy drug use among expectant American Indian adolescents. In contrast, in a study of the correlates of alcohol use during pregnancy among pregnant Inuit women, Muckle et al. (2011) hypothesized that increased acculturation to mainstream Canadian culture (assessed through the use of the “Peabody Vocabulary Test Index Revised” [PPVT-R] instrument which associates proficiency in English or French as an index of acculturation) would be protective. Despite their divergent hypotheses, both studies had convergent findings.

In Barlow et al.’s study (2010) among expectant American Indian adolescents (n=322), lifetime methamphetamine use was reported significantly less often for those who lived by a more traditional way of life (Relative Risk [RR]=0.63, p<0.05), and those who ascribed more importance to having traditional Indian values were significantly less likely to have a history of lifetime methamphetamine use (RR=58, p<0.05) and any drug use during pregnancy (RR=0.42, p<0.005). Although this study was cross-sectional, the authors decided to use a relative risk calculation, instead of an odds ratio, because it is considered a more accurate and appropriate measure for associations with outcomes that are relatively frequent. In addition, as the study was conducted with adolescents who had initiated drug use within the previous two to five years, and most of the questions were around family of origin functioning, assumptions about temporality could be made about the findings. Similarly, Muckle et al. (2001) found that increased levels of acculturation among pregnant Inuit women (n=248) were significantly associated with both more alcohol use as well as binge drinking during pregnancy (p=0.05). These findings support the notion that culture has an important relation to Aboriginal women’s experiences of substance use. One important caveat for interpreting the results from Muckle et al. (2001), however, is that the research was conducted in “dry” communities where alcohol is expensive, and use may therefore be more dependent on socioeconomic status or employment and greater proficiency in English or French.

Employment.

In the study by Mehrabadi et al. (2008a) the associations between involvement in sex work and injection drug use (IDU) and abuse experiences were explored among a young, drug-
using sample of Aboriginal women (n=262). The study findings indicated that women who reported being involved in sex work in the previous six months (n=154) were significantly more likely than women who were not to have reported daily injection of cocaine (Adjusted Odds Ratio [AOR]= 4.4; 95% Confidence Interval [CI]: 1.9, 10.1) or to have smoked crack (AOR= 2.9; 95% CI: 1.6, 5.2) in the previous six months, and to have experienced lifetime sexual abuse (AOR=2.5; 95% CI: 1.4, 4.4). The proportion who reported having been sexual abused was high for all women in the sample, and the median age for first experience of sexual abuse was 6 years old.

**Study quality assessment.**

The overall quality assessment scores for all the studies included in the review are shown in Figure 5. All quantitative studies in this review were appraised using the “Quality appraisal checklist- quantitative studies reporting correlations and associations” (Appendix A) and the qualitative studies were appraised using the “Quality appraisal checklist- qualitative studies” (Appendix B), while the one mixed methods study was appraised using both checklists.

Table 1 explains the criteria for scores given for quantitative and qualitative scores respectively. A detailed quality assessment follows for all quantitative, qualitative and mixed methods study designs.

Of the 13 quantitative studies, three were correlation designs, while the remaining were cross-sectional studies. Almost all of the studies made use of a questionnaire that was administered verbally by a research team member (Barlow et al., 2010; Mehrabadi et al., 2008a; Mehrabadi et al., 2008b; Muckle et al., 2011; Mylant & Mann, 2008; Oetzel, Duran, Jiang, & Lucero, 2007; Stevens, 2001), although a few supplemented this process with medical chart abstractions (Bohn, 2002; Bohn, 2003), while two studies relied solely on a chart abstraction (Callaghan, Cull, Vettese, & Taylor, 2006; Saylors & Daliparthy, 2005) and another study used secondary data analysis of previous interview data (Parker, Maviglia, Lewis & Gossage, 2010). One of the studies used a mail-in survey (Simoni, Sehgal, & Walters, 2004).

**Internal validity.**

All of the studies were scored as either strong or sufficient for internal validity. Detailed information about each component of the studies used to score internal validity can be found in Appendix 2-2, and a summary of internal validity considerations follows.
One main component of assessing the internal validity of the studies was to assess whether the selection of explanatory variables was based on sound theory. All of the studies scored strong in this category, because researchers based their selection of explanatory variables on previous research findings and/or theories relating to health behaviours. For example, as previously mentioned, Barlow et al. (2010) selected explanatory variables that measured the association between family functioning and substance use based on the “Patterson Theory”. Similarly logical rationales for the selection of explanatory variables were provided in all of the quantitative studies.

In terms of identifying and controlling for potential confounders, there was wide variation among the studies. For example, studies that used multivariate modeling and controlled for confounders identified in bivariate analysis were scored strong (Mehrabadi et al., 2008a; Mehrabadi et al., 2008b; Muckle et al., 2011; Oetzel et al., 2007; Parker et al., 2010; Simoni, Sehgal & Walters, 2004), and studies that did not adjust for all confounders, such as SES, where there was not likely to be any impact due to very homogenous samples were also scored as strong (Bohn, 2002; Bohn, 2003), whereas studies that adjusted for some confounders but did not consider others, such as demographics, without any information about the homogeneity of the group, were scored as sufficient (Barlow et al., 2010; Callaghan et al., 2006), and one study that did not identify or control for any confounders were scored as insufficient (Mylant & Mann, 2008), one study was scored as ‘not reported’ due to limited information (Sайлорs & Daliparthy, 2005) while another was a descriptive only study and was therefore scored as ‘not applicable’ (Stevens, 2001).

Another component of internal validity is the reliability of outcome measures and procedures. Studies were scored as strong if data was collected using standardized and validated instruments that were based on previous formative research (e.g., The “Index of Spouse Abuse” used for IPV screening (Bohn, 2002)) and/or involved elements tailored to the sample population (e.g., The “Voices of Indian Teens” instrument used for cultural identity, suicide history and family addiction problems (Barlow et al., 2010)), as was the case for the majority of the studies (Bohn, 2003; Mehrabadi et al., 2008a; Mehrabadi et al., 2008b; Muckle et al., 2011; Mylant & Mann, 2008; Oetzel et al., 2007; Simoni et al., 2004). Studies that did not employ a systematic method for collecting data (Callaghan et al., 2006; Sailors & Daliparthy, 2005), or introduced substantial risks of recall bias, (e.g., self-reported drinking problems compared between mothers of children with FASD and without (Parker et al., 2010)), were scored as sufficient. Stevens
(2001) was scored as ‘not reported’ due to insufficient information on outcome measures and procedures.

The use of appropriate analytical methods was also assessed. The studies that scored strong for this criterion appropriately included assessments of assumptions for the analytical methods used (e.g., co-linearity of variables, normality of data and small sample sizes) and made the appropriate adjustments (e.g., contemporary robust $t$-tests, Fisher’s exact test for cell count $<5$) (Barlow et al., 2010; Callaghan et al., 2006; Parker et al., 2010; Bohn, 2002; Bohn, 2003; Mylant & Mann, 2008), included appropriate association tests (e.g., chi-squared for discrete variables, $t$-tests for continuous variables, logistic regressions to identify independent associations between factors) (Mehrabadi et al., 2008a; Mehrabadi et al., 2008b; Muckle et al., 2011; Oetzel et al., 2007; Parker et al., 2010), or used multiple linear regression models to identify mediating variables (Simoni, Sehgal & Walters, 2004). Sylors & Daliparthy (2005) and Stevens (2001) were scored as sufficient, due to a lack of detailed information to fully assess the appropriateness of their analytical methods.

Finally, the studies were scored in relation to having sufficient power and precision. Stevens (2001) was scored as not applicable for both items, due to the descriptive nature of the analysis. Insufficient scores were given to studies that had very small sample sizes, therefore introducing the risk of a Type II error and significantly limiting the study’s analysis (Bohn, 2002; Bohn, 2003; Mylant & Mann, 2008). Sufficient scores were given to studies that had adequate sample sizes to allow testing for associations and conducting some comparison, but also presented some limits due to small groups in some categories, although confidence intervals were provided when appropriate (Oetzel et al., 2007, Parker et al., 2010, Simoni et al., 2004). Studies that scored strong for this category had large samples, and sufficiently large comparison groups that allowed for robust analysis and association testing, and narrow confidence intervals (Barlow et al., 2010; Callaghan et al., 2006; Mehrabadi et al., 2008a; Mehrabadi et al., 2008b; Muckle et al., 2011).

**External validity.**

All of the studies were scored as either strong or sufficient for external validity. Strong scores were given to studies that included comprehensive information about source populations such that potential sources of selection bias could be identified and minimized (Bohn, 2002; Bohn, 2003; Callaghan et al., 2006; Parker et al., 2010; Sylors & Daliparthy, 2005). Sufficient
scores were given to studies that did not include enough information about recruitment and eligibility criteria to assess sources of selection bias (Barlow et al., 2010; Mylant & Mann, 2008), where a substantial percentage of eligible participants were not included in the sample (Muckle et al., 2011; Oetzel et al., 2007; Simoni et al., 2004), or where the use of snowball or word of mouth recruitment methods may have increased potential selection bias (Mehrabadi et al., 2008a; Mehrabadi et al., 2008b; Stevens, 2001). The use of snowball or word of mouth recruitment, however, must be understood within the context of accessing hard to reach populations, where random selection and traditional recruitment methods are either impractical or ineffective. When several methods of recruitment were used (e.g., referrals through health care providers, community outreach, word of mouth, posters on street corners and in a variety of community organizations accessed by the population of interest (Mehrabadi et al., 2008a; Mehrabadi et al., 2008b), the risk of bias was likely minimized. Regardless, in attempting to access hard-to-reach populations, the reality is that snowballing methodology may be the most useful recruitment method available.

The quality of the qualitative study conducted by Herbert & McCannell (1997) was assessed as strong, using the quality appraisal checklist shown in Appendix 2-3 to appraise the trustworthiness of the research. Using exploratory interviews, the goal of the Herbert and McCannell (1997) study was to “correct the invisibility and distortion of female experience” (p. 56) by creating a discourse about recovery that reflected the experiences of six First Nations women who had experienced childhood sexual abuse and addictions. A clear rationale for the methods was provided and the use of a feminist emancipatory framework to conduct exploratory interactive interviews was well supported. The researchers openly acknowledged their potential influence on the findings (one researcher belonged to the participants’ community, and the possible impacts of this were thoroughly acknowledged and explored), and the context of the interviews were clearly described. Member checking was used to ensure that the analysis and results was representative of the participants’ views and provided an opportunity for women to remove any personally identifying information or controversial content. The data presented was rich, contextual, and presented contradictory views. Finally, ethical considerations were reported in the study and a safe research environment was provided for participants: the interviews were conducted by a community member with counselling training; women chose when and where their interviews took place; and inclusion criteria explicitly stated that there should be no expected risk of re-traumatization by participation in the interview.
The quality of the mixed methods study by Peterson, Berkowitz, Cart and Brindis (2002), was scored as sufficient overall using both the quantitative and qualitative checklists shown in Appendix 2-2. The overall goal of the research was to examine the demographic, social, behavioural, health and help-seeking characteristics of women receiving substance use treatment services through Indian Health Services (IHS) funded programs. In an effort to provide a holistic picture of these factors, the data collection included reviews of treatment records, focus groups with women currently in treatment, group interviews with staff, and individual interviews with centre administrators. The study used a cluster sampling strategy where the treatment centre was used as the cluster unit, with a focus on maximizing study resources and representativeness by sampling from each type of treatment program. Nine treatment centres were included in the assessment, and were representative of all the types and locations of IHS treatment centres. As such, the study was scored as strong for external validity.

Internal validity, however, was scored as sufficient. Data collection procedures and measures were not standardized across treatment sites (different intake forms and procedures), and as a result there was a large portion of missing data which limited sample sizes and cross-comparison between the treatment centres. The qualitative design of the research was scored as sufficient, due to a lack of details around the study design. It is unclear who participated in the focus groups and interviews, and there is no discussion about the rationale for study designs. Additionally, data from the focus groups and interviews were only collected in the form of observation notes written by the researchers. These observations were aggregated to create a single transcript for each centre, and the richness of data generated was therefore limited.

In summary, the majority of the studies had high quality study designs. Only two of the studies were scored as weak.

**Summary of systematic review**

The significant findings from this review support the fact that social determinants of health are important factors in understanding substance use among Aboriginal women. Considering this, the fact that only 16 studies were identified that explicitly addressed this topic is indicative of the dearth of information for understanding the social contexts of substance use among Aboriginal women in the peer-reviewed literature. Still, it is encouraging that researchers have at least begun to acknowledge the need to understand the complexities of the relations of social
determinants of health to substance use among Aboriginal women, despite some inherent shortcomings.

One important consideration for research on substance use among Aboriginal women is the homogeneity of study samples for many social indicators. Many of the study samples’ were poor, single women with low levels of education, which therefore increased the chance of Type II errors. Given that many of the studies had findings that still indicated significant social determinants related to substance use despite this inflated Type II error rate, understanding the social contexts of substance use among Aboriginal women is clearly important.

The most frequent population focus of the studies included in the review was pregnant women. Although others have criticized this focus as an indication of the fetus-centric preoccupations of medical and public health systems, many of the studies provided women-centered rationales for their population focus. During pregnancy, most women have increased interactions with service providers, and thus a window of opportunity exists to support these women. Additionally, substance use during pregnancy often perpetuates negative social and health outcomes for mothers, as well as their children. Even so, to understand fully the social, historical and structural influences in Aboriginal women’s lives that contribute to their experiences of substance use during pregnancy, expansion beyond this pregnancy-focus is needed to include the broader contexts of their life experiences with substance use generally.

It is evident from this review, and the determinants examined, that the issue of substance use among Aboriginal women is complex, and that many factors contribute and interact. Therefore, efforts to identify “causes” of substance use may be unrealistic, and giving priority to some determinants over others may be overzealous in a situation that seems to point to the interaction of multiple factors in multiple ways, rather than clear-cut pathways. However, given the emergent nature of the research field, arguably a need still exists to identify and quantify the associations between social determinants and substance use before informed longitudinal studies can be conducted. That being said, it is imperative that these correlational findings be contextualized, and further qualitative research on this topic could allow for this while also addressing some of the issues around understanding temporality. In addition, when considering that causal explanations depend on in-depth understandings of meanings, contexts and processes (Maxwell, 2012), qualitative research is clearly important to understanding the social determinants of substance use further.
While the findings from these studies provided support for the relationship between social determinants of health and substance use, the almost exclusive use of quantitative methods and the prioritizing of certain social determinants of health over others, prevented a comprehensive and contextual understanding of substance use among Aboriginal women. In fact, for many of the studies, it could be argued that highlighting the social circumstances of these women’s lives without explicitly attending to both the distal determinants of these circumstances and the strength and resilience of Aboriginal women themselves, served to stigmatize and pathologize Aboriginal women further. One possibility for countering these limitations could be the use of intersectionality-based analyses, in which people’s experiences are understood as being shaped by simultaneously multiple intersecting factors, including gender, historical positioning, class, and racialization processes (Anderson, 2004), without the need to give priority to any one axis of influence (Browne, Smye & Varcoe, 2005).

This small body of research on Aboriginal women who use substances is reflective of a new field of inquiry and the methodological shortcomings demonstrated in the studies are mostly indicative of the challenging nature of undertaking research with populations that have been marginalized. Many of these women are living in “high-risk” situations that require alternative approaches to accepted ways of conducting “high quality” research. As such, although so-called quality assessments must be used as a tool to interpret the results from these studies further, they should not necessarily be used as tools to discount their findings. Although the research methods used in the studies had limitations, most of these limitations were due to the limits of the nature of the research topic itself, rather than poor study design.

Given the inseparability of the “Aboriginal” woman from her political and historical contexts, it is interesting that while these factors were acknowledged in the backgrounds and introductions of most of the studies, these considerations did not always manifest again in the subsequent data collection, analysis or recommendations. In fact, aside from a few studies, little consideration was given to the contributions of discriminatory or punitive policies and historical contexts to the high levels of trauma and abuse among Aboriginal women or their relation to substance use problems. Explicit attention to these issues as measured and reported outcomes is paramount to a full examination of the social determinants of substance use among Aboriginal women. This examination is a critical piece in shifting the research landscape from identifying Aboriginal women as simply and unavoidably “vulnerable” and “marginalized” to honoring the
strength and resilience these women have shown in light of very difficult and discriminatory contexts.

The failure to acknowledge the significance of Aboriginal women’s histories and the long-term relations of domination and cultural genocide, has decidedly limited current explanatory frameworks for understanding substance use during pregnancy and has led to inadequate health interventions (Mitchell & Maracle, 2005). Critical analysis of substance use before, during and after pregnancy among young Aboriginal women is necessary to understand the material conditions and contexts affecting these women’s health, while a women-centered approach is needed that emphasizes respect through supporting the reduction of harms associated with use, while also encouraging the maintenance of the mother-child unit (Greaves & Poole, 2004; Poole & Greaves, 2009). Research conducted from this women-centered, social determinants of health perspective will not only serve “as a form of resistance to the pervasive negative discourse surrounding substance use by mothers, but also as a contribution to evidence-based practice and improved policy-making regarding mothers, and, indeed, their children” (Poole & Greaves, 2009, p. 64).

Given that this review was not conducted with the use of independent and multiple researchers, there is a possibility of selection, participation and information biases in the studies selected for review and this may have affected the results. Additionally, as there was a lack of independent multiple scorers for the quality assessment, this is also a source of potential bias in this review.

**Moving Forward**

In this chapter, the literature related to substance use among pregnant-involved young Aboriginal women points to an urgent need for more research that allows for a more nuanced and intersectional understanding of the determinants of substance use among Aboriginal women. Particular attention must be paid to including the political and historical contexts of Aboriginal women’s lives, both through quantitative research methods, as well as through qualitative research methods that honour and prioritize the voices and opinions of women themselves. Given the emergent nature of much of this research, a mixed methods approach to identifying and understanding the social determinants of substance use among pregnant-involved young Aboriginal women is warranted.
Chapter 3 Methods

In order to answer the study’s research questions, which seek to not only identify but also understand the social, political and historical contexts of substance use among pregnant-involved young Aboriginal women, multiple methodologies are required. Currently there is a dearth of epidemiological data that explores the contextual factors related to substance use during pregnancy for young Aboriginal women. As such, there is a need for quantitative data which necessarily and explicitly attends to the broader determinants of substance use. However, as discussed in Chapter 2, quantitative findings alone will be insufficient in achieving the research project’s objectives, for two main reasons: firstly, while the epidemiological data can be used to identify associations between substance use and certain social, political, or historical factors, it cannot provide a contextualized, deep understanding of how or why these factors may be associated with or influence substance use before, during, or after pregnancy; and, secondly, there is an urgent need to prioritize the voices of women, and to honour their perspectives and understandings of their own life experiences. The input and contribution of young Aboriginal women directly to this research is paramount to its objectives. As such, while quantitative research is an important and necessary step to addressing the study’s research objectives, it is not sufficient. Qualitative methods must also be used to supplement and complement the quantitative findings in ways that include and empower the voices of young Aboriginal women with experiences of substance use and pregnancy. Given these considerations, a mixed methods research design is ideally suited to conduct this research.

Research Project Design

Mixed methods research designs focus on collecting, and analyzing both quantitative and qualitative data in a single study or in a series of studies. The central premise is that using these two approaches in combination will provide a better understanding of research problems than either approach alone (Creswell & Clark, 2011). In particular, mixed methods are well-suited to studies such as this one, where multiple data sources are needed to understand a topic and where using multiple forms of inquiry best supports a theoretical stance (Creswell & Clark, 2011). In this case, using mixed methods lends itself to exploring the social determinants of health from an intersectionality perspective because it allows for a comprehensive exploration of the complex research questions by avoiding the limitations of using just one method (Morse & Niehaus, 2009).
A convergent parallel design for mixed methods research is best employed when a researcher wants to obtain different but complementary data on the same topic, and to synthesize these data to develop a more complete understanding of a phenomenon (Creswell & Clark, 2011; Morse & Niehaus, 2009). In this design, the researcher attempts to bring together the differing strengths and non-overlapping weaknesses of both quantitative and qualitative designs, whereby both large sample size and generalizable findings can be produced, complemented by more detailed and in-depth findings, respectively (Creswell & Clark, 2011; Morse & Niehaus, 2009). While each method employed contributes to answering the overall research question in an incremental fashion, each part of a convergent parallel design study (also referred to as a “multiple method research design”) is complete in itself (Morse & Niehaus, 2009). Even so, synthesizing the findings from the different methods can enable the researcher to build conceptual bridges between concepts, justify the inclusion of certain concepts, while also linking each concept in its appropriate context. These linkages make the resulting study more useful, more relevant, and easier to build subsequent studies on (Morse, Niehaus, 2009).

Using a convergent parallel mixed methods design, this research project had three research objectives to address the project’s overall research question. As shown in Figure 1 (p. 8), the quantitative study (secondary data analysis) addressed the project’s first research objective, while the qualitative study consisting of two parts (life history interviews and the CIRCLES mapping exercise) addressed the second objectives. Finally, in the convergent mixed methods study, the findings from both of the quantitative and qualitative studies were integrated to inform the project’s third objective, using convergent mixed methods analysis. The sample populations for each of the research studies were recruited from The Cedar Project.

The Cedar Project

This research was conducted within an ongoing research study, called the Cedar Project. The Cedar Project is an ongoing prospective cohort study of young Aboriginal men and women who use drugs in three centres in British Columbia, Canada. The Cedar Project’s purpose is to explore HIV- and HCV-related vulnerabilities among male and female Aboriginal youth who use drugs. Recruitment for the project began in October 2003 and is ongoing. Participants are recruited through health care providers, street outreach workers, and word of mouth; it is therefore difficult to assess how many young people who heard about the study were eligible and chose not to participate. However, anecdotal information from the project’s research
coordinators and outreach workers suggest that those who do participate in the Cedar Project appear to be representative of their non-involved peers.

Eligibility criteria for the Cedar project included self-identification as Aboriginal, being between the ages of 14-30 years of age, and having smoked illicit drugs in the last week, or injected illicit drugs in the last month, including crystal methamphetamine, crack-cocaine, heroin or cocaine, prior to enrolment. Saliva screens were used to confirm drug use.

**The Cedar Project Settings**

The Cedar Project collected data originally at two study sites in British Columbia, Vancouver’s Downtown Eastside and Prince George, a forestry and mining town in the northern interior of BC. A third, mobile site, was added in 2011 in the Interior Region of BC, which serves Kamloops, Chase, Salmon Arm and Enderby. Kamloops is the largest community in this region and is the location of the regional district offices. Chase, Salmon Arm and Enderby are smaller, more rural communities, whose main industries are forestry, tourism, and agriculture. Table 4 shows a comparison of the three study sites for several relevant factors related to the lives of pregnant-involved young Aboriginal women who live there.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Vancouver (Site A)</th>
<th>Prince George (Site B)</th>
<th>Interior (Site C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban/Rural Mix</td>
<td>Large Urban Centre</td>
<td>Small Urban Centre</td>
<td>Urban-Rural Mix</td>
</tr>
<tr>
<td>Harm Reduction vs. Abstinence Service Models</td>
<td>Primarily Harm Reduction</td>
<td>Harm Reduction</td>
<td>Primarily Abstinence-Based</td>
</tr>
<tr>
<td>Aboriginal Population*</td>
<td>40,310 (2% of total)</td>
<td>8,855 (11% of total)</td>
<td>7,050 (7.7% of total)</td>
</tr>
<tr>
<td>On or Off- Reserve Living</td>
<td>Primarily off-reserve</td>
<td>Primarily off-reserve</td>
<td>Mixture</td>
</tr>
<tr>
<td>Service Density</td>
<td>Dense in downtown eastside</td>
<td>Dense in downtown core</td>
<td>Dense in Kamloops, Sparse everywhere else</td>
</tr>
</tbody>
</table>

*Note. Based on 2006 Statistics Canada Census Data for Greater Vancouver, Prince George, and Kamloops

**Data Collection Considerations**

There were important data collection considerations that influenced comparison and interpretation of findings in this convergent mixed methods research. The four main considerations were: who was selected for the samples, what was the size of the samples, the
design of the data collection questions, and the format and order of the different forms of data collection (Creswell & Clark, 2011). Before details are provided about the data collection methods these considerations will be discussed.

When the purpose of a research project is to directly compare or corroborate or relate the different sets of findings about a topic, as was the case in this instance, it is important that the individuals, who participate in the qualitative study, be part of the same group that participated in the quantitative study (Creswell & Clark, 2011). In order to meet this requirement, women who participated in the qualitative component of this dissertation research were also women who have completed a Cedar Project baseline questionnaire and who have had experiences with pregnancy. Therefore, all women who participated in the interviews were also included in the quantitative component of this dissertation research (i.e., secondary data analysis of the baseline questionnaires). One important caveat however is the issue of time, as there may have been a significant time lapse between the times the participants completed their baseline questionnaire and when they participated in an interview. As such, their life contexts may have changed significantly from the time they provided their quantitative data, and this is important to keep in mind when comparing and interpreting findings.

When conducting mixed methods research, it is recommended that the qualitative study’s sample size be smaller than the quantitative study’s sample size, as the intent for data gathering is different for each of the studies (Creswell & Clark, 2011). These sample sizes best support a researcher to simultaneously obtain both an in-depth qualitative exploration and a rigorous quantitative examination on the research topic (Creswell & Clark, 2011). In the secondary analysis study of this project, the responses of 291 women were analysed, whereas the qualitative study had 23 participants in total. In keeping with the conventions for convergent mixed methods, these differences in sample size can be attributed to the fact that the secondary data analysis of survey responses aims to make generalizations to a population, while interviews were conducted to develop an in-depth understanding on the topic from a few people.

In order to optimize a convergent mixed methods design, it is recommended that each study is designed to ask parallel questions in its data collection efforts (Creswell & Clark, 2011). In order to allow for the results of the different studies to be merged and compared, it is necessary that the same concepts are addressed in each step of the research so that the results can be merged and analysed around those concepts in the final step (Creswell & Clark, 2011). All
steps in this research were oriented around the concept of social determinants and their influence on substance use among pregnant-involved young Aboriginal women, and the aim to identify proximal, intermediate and distal social determinants of health. This unified focus of each step of the research facilitated the comparison and integration of the findings, as well as contributed to the ability to discuss the findings of both studies in relation to each other.

A final consideration in convergent mixed methods research is whether the different datasets will be collected independently or concurrently. It is recommended that data be collected independently when using a convergent design and that careful consideration is made of the order of data collection if it could have an effect on the findings (Creswell & Clark, 2011). As the quantitative study was a secondary data analysis, the data were previously collected, so there was no decision to be made about this and the new data collection involved conducting the qualitative interviews.

A description of the methods used for each of the three studies conducted is subsequently presented. Detailed findings for each study are reported in Chapters 4 to 7.

**Quantitative Study Methods**

A secondary data analysis was conducted using data from a baseline questionnaire that was administered to all Cedar Project participants at enrollment (Chavoshi et al., 2013; Mehrabadi et al., 2008; Miller et al., 2011; Pan et al., 2013; Pearce et al., 2008; Spittal et al, 2012). A descriptive quantitative design was used, in addition to hierarchical logistic regression to test the *ILCSD Model’s* ability to predict heavy substance use among pregnant-involved female participants.

**Quantitative research questions**

The quantitative research study aimed to answer the following questions:

1. What are the social contexts of the lives of pregnant-involved young Aboriginal women who use alcohol and drugs in British Columbia, Canada?
2. Can the *ILCSD Model’s* social determinants of health within distal, intermediate and proximal domains predict heavy alcohol use, drug use (smoked) and drug use (injected) in the previous six months among pregnant-involved young Aboriginal women?
Hypothesis #1: The influence of distal determinants on each dependent variable (alcohol use, drug use (smoked) and drug use (injected), will be mediated by intermediate and proximal determinants.

Hypothesis #2: The influence of intermediate determinants on each dependent variable (alcohol use, drug use (smoked) and drug use (injected), will be mediated by proximal determinants.

Baseline questionnaire data collection

Participants in the Cedar Project were given the opportunity to be interviewed by an Aboriginal person, and because confidentiality is a concern particularly in smaller communities, participants could choose someone they trusted to interview them. All participants met with an Aboriginal study coordinator in the Cedar Project who explained procedures, sought informed consent, and confirmed each participant’s eligibility. Participants were informed of the limitations of confidentiality, including communicable disease reporting and child welfare legislation regarding current sexual abuse. At enrolment, participants completed an interviewer-administered questionnaire to elicit socio-demographic characteristics, patterns of drug use, sexual vulnerability, and use of services. One purpose of the baseline questionnaire was to assess the risk factors associated with Aboriginal youth’s elevated risk and transmission of HIV and HCV. As such, venous blood samples were also taken at each subsequent visit, and participants were offered pre- and post-test counselling with trained nurses. Participants were requested to return for their results, but were not required to, and participants were given a $20 stipend at each visit.

All eligible participants were offered pre- and post-test counseling with trained nurses. Also, study personnel provided ongoing support to the young people involved to secure the kinds of physical and emotional support they requested. Requests for help included access to traditional healing support, addiction treatment, and secure housing.

Secondary data analysis cohort definition

In order to understand women’s life contexts and experiences with alcohol and drug use before, during and after pregnancy, this secondary analysis was restricted to “pregnant-involved women” defined as women who have ever been pregnant before the age of 30.

The analysis was based on data collected in the baseline questionnaire that was administered at enrollment. For this analysis, the cohort was defined as all female participants.
under the age of 30 years who completed a baseline questionnaire between October 2003- July 2013 and responded ‘yes’ to the question ‘Have you ever been pregnant?’ The resulting study sample was 291. Anonymized data that included the following measures was available for analysis.

**Measures**

Based on the *ILCSD Model*, indicators were selected that were deemed most relevant in measuring the proximal, intermediate or distal social determinants of health. Variables available for this analysis included measures of socio-demographic factors, pregnancy characteristics, survival sex involvement, sexual abuse histories, cultural continuity, the use of health care services, alcohol and/or drug treatment services, the use of any services in general, and measures of colonialism and historical or cultural trauma. Table 5 shows a summary of all included variables, as well as their definitions for further clarification.

**Dependent variables.**

Three dependent variables were used that measured the participants’ pattern of alcohol use, drug use (smoked) and drug use (injected) over the previous 6 months, respectively. Based on previous studies of people who use illicit drugs (Craib et al., 2003; Schechter et al., 1999), heavy drug smoking or injecting was defined as those who reported smoking or injecting once or more per day and light drug use was defined as using less than daily (heavy vs. light use). Alcohol use over the previous 6 months was defined as heavy for participants who reported having 6 or more drinks on one occasion on more than a monthly basis, and light for participants having 6 or more drinks on one occasion once a month or less, based on the low risk drinking guidelines from the Canadian Centre on Substance Abuse and the information available in the survey about alcohol use patterns (Butt et al., 2011) (heavy vs. light use).
Table 5 *Self-Report Variable Classifications according to ILCSD Model and Definitions*

<table>
<thead>
<tr>
<th>PROXIMAL DETERMINANTS</th>
<th>Variable Names</th>
<th>Variable Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socioeconomic Status (SES)</strong></td>
<td>Relationship Status</td>
<td>Current relationship status.</td>
</tr>
<tr>
<td></td>
<td>Highest Education</td>
<td>Highest level of education completed.</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>Monthly income from all sources (gov’t, work, and illegal sources).</td>
</tr>
<tr>
<td></td>
<td>Survival Sex, ever</td>
<td>Has the participant ever done survival sex work?</td>
</tr>
<tr>
<td></td>
<td>IF YES, Age of 1st Survival Sex</td>
<td>Age of participant the first time she did survival sex work.</td>
</tr>
<tr>
<td></td>
<td>Survival Sex, last 6 Months</td>
<td>Has the participant done survival sex work in the previous 6 months?</td>
</tr>
<tr>
<td><strong>Physical Environments</strong></td>
<td>Housing Stability</td>
<td>Considered unstable if lived anywhere other than house or apartment in previous 6 months (i.e. hotel, hostel, shelter, crack shack etc.).</td>
</tr>
<tr>
<td></td>
<td>Homelessness</td>
<td>Has the participant ever been on the street with no place to sleep for more than three nights?</td>
</tr>
<tr>
<td></td>
<td>Age First Left Home</td>
<td>Age the participant first left home to live on her own.</td>
</tr>
<tr>
<td><strong>Health Behaviours</strong></td>
<td>Number of Pregnancies</td>
<td>Number of times the participant has ever been pregnant (including abortions/miscarriages).</td>
</tr>
<tr>
<td></td>
<td>Age of First Pregnancy</td>
<td>Age of participant the first time she was pregnant.</td>
</tr>
<tr>
<td><strong>Trauma</strong></td>
<td>Sexual Abuse, ever</td>
<td>Has the participant ever been sexually abused? (Any type of forced sexual activity including childhood sexual abuse, molestation, rape, and sexual assault)</td>
</tr>
<tr>
<td></td>
<td>IF YES, Age of 1st Sexual Abuse</td>
<td>Age of participant the first time she was sexually abused.</td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse, reported</td>
<td>Has the participant ever reported the sexual abuse to anyone?</td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse, repeated</td>
<td>Has the participant been sexually abused again, since the first time?</td>
</tr>
<tr>
<td></td>
<td>Sexual Abuse, last 6 Months</td>
<td>Has the participant been sexually abused in the previous 6 months?</td>
</tr>
<tr>
<td><strong>Mothering Experiences</strong></td>
<td>Child Apprehended, ever</td>
<td>Has the participant ever had any of her children apprehended by child and family services?</td>
</tr>
</tbody>
</table>

**INTERMEDIATE DETERMINANTS**

<p>| <strong>Cultural Continuity</strong> | Taken from Parents, ever | Has the participant ever been taken from her biological parents by child and family services? |
| | IF YES, Age 1st Taken from Parents | Age of participant the first time she was taken from her biological parents. |
| | Language | Does the participant speak her native or traditional language? |
| | Reserve, ever | Has the participant ever been to a reserve? |</p>
<table>
<thead>
<tr>
<th>Variable Names</th>
<th>Variable Definitions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural Substance Treatment</td>
<td>Is the participant interested in more culturally specific substance use treatment?</td>
</tr>
<tr>
<td>Service Use</td>
<td></td>
</tr>
<tr>
<td>ER, last 6 months</td>
<td>Has the participant received health care from the emergency room (ER) in the previous 6 months?</td>
</tr>
<tr>
<td>Hospital Admission, last 6</td>
<td>Has the participant been admitted overnight to a hospital in the previous 6 months?</td>
</tr>
<tr>
<td>Months</td>
<td></td>
</tr>
<tr>
<td>Ambulance, last 6 months</td>
<td>Has the participant received health care from an ambulance in the previous 6 months?</td>
</tr>
<tr>
<td>Substance Use Treatment, Ever</td>
<td>Has the participant ever received any substance abuse treatment (including methadone)?</td>
</tr>
<tr>
<td>Counsellor, last 6 months</td>
<td>Has the participant accessed a counsellor in the previous 6 months?</td>
</tr>
<tr>
<td>Food Services, last 6 months</td>
<td>Has the participant accessed food services in the previous 6 months?</td>
</tr>
<tr>
<td>Health Care Provider, last 6</td>
<td>Has the participant accessed a health care provider in the previous 6 months?</td>
</tr>
<tr>
<td>Months</td>
<td></td>
</tr>
<tr>
<td>Housing Services, last 6 months</td>
<td>Has the participant accessed housing services in the previous 6 months?</td>
</tr>
<tr>
<td>Needle Exchange, last 6 months</td>
<td>Has the participant accessed a needle exchange in the previous 6 months?</td>
</tr>
<tr>
<td>Support Group, last 6 months</td>
<td>Has the participant accessed a support group in the previous 6 months?</td>
</tr>
<tr>
<td>Social/Welfare Worker, last 6</td>
<td>Has the participant accessed a social or welfare worker in the previous 6 months?</td>
</tr>
<tr>
<td>Months</td>
<td></td>
</tr>
<tr>
<td>Service Barriers</td>
<td></td>
</tr>
<tr>
<td>Housing Denied, due to drug</td>
<td>Has the participant ever had housing denied due to her drug use?</td>
</tr>
<tr>
<td>Use</td>
<td></td>
</tr>
<tr>
<td>Service Denied, due to drug</td>
<td>Has the participant ever had a service denied due to her drug use?</td>
</tr>
<tr>
<td>use</td>
<td></td>
</tr>
<tr>
<td>Barriers to Services</td>
<td>Does the participant feel there are barriers to accessing services she needs?</td>
</tr>
<tr>
<td>Service Needs</td>
<td></td>
</tr>
<tr>
<td>Service Needed, last 6 months</td>
<td>Has the participant been in need of any service, in the previous 6 months?</td>
</tr>
<tr>
<td>DISTAL DETERMINANTS</td>
<td></td>
</tr>
<tr>
<td>Colonialism</td>
<td></td>
</tr>
<tr>
<td>Residential School, parents</td>
<td>Has either of the participant’s parents attended residential school?</td>
</tr>
<tr>
<td>Residential School, family</td>
<td>Has anyone in the participant’s family (excluding parents) attended residential school?</td>
</tr>
<tr>
<td>History</td>
<td></td>
</tr>
<tr>
<td>Number of Family Members</td>
<td>Number of known family members (excluding parents) who attended residential school</td>
</tr>
<tr>
<td>Caregiver Addiction</td>
<td>Did any of the participant’s caregivers have drug or alcohol addiction problems?</td>
</tr>
<tr>
<td>Survival Sex History</td>
<td>Did anyone in the participant’s family do survival sex work?</td>
</tr>
</tbody>
</table>
Given that all the participants were women who used drugs at enrollment, creating outcome variables to distinguish between light and heavy use allowed for an exploration of the relationships between social determinants of health and substance use. This was also particularly relevant given that pregnant-involved women who have a history of heavy drug and/or alcohol use are more likely to use alcohol and/or drugs during pregnancy, and also, heavy use of substances during pregnancy specifically, is associated with greater harms for both the mother and the foetus (Hunting, 2012; Salmon, 2011). While this variable measures level of use within the past 6 months and, therefore, is not measuring use during a pregnancy necessarily, it is nonetheless an important and relevant measure to examine the impact of the social determinants of health on substance use among pregnant-involved young Aboriginal women. Figure 6 depicts the hypothesized relationship between the distal, intermediate and proximal determinants of health, and the three dependent variables.

**Figure 6.** Hypothesized relationship between variables based on the Integrated Life Course and Social Determinants Model of Aboriginal Health

**Quantitative Data Analysis**

The first step of this analysis was to provide descriptive statistics for all variables to summarize sample characteristics. Frequencies (and means and standard deviations for continuous variables) were calculated. Categorical variables were compared across the three study locations of the project using Pearson’s \(x^2\) test. No expected cell values were less than 5. Continuous variables were analyzed using the Kruskal-Wallis one-way analysis of variance for non-parametric data. All reported p-values are two-sided and significant associations were
determined at the 0.05 cut-off point. Continuous variables were inspected for outliers, and outliers were replaced with the value of two times the variable’s standard deviation. Multicollinearity and linearity of the logit was also inspected before conducting logistic regressions.

Univariate logistic regression was conducted to identify the determinants of health that were independently associated with each of the outcome measures. In the adjusted Model I for each dependent variable, significant variables at the p<0.05 cut-off in univariate analysis were entered into multivariable logistic regression analysis using the Enter method in SPSS. All models were adjusted for age.

In the adjusted Model II for each dependent variable, variables that remained significant in Model I were entered as blocks according to their hypothesized relationship based on the ILCS Model to test for any mediated effects to support the model. When testing for mediation, several things must be taken into consideration. Most importantly, the proposed relationships between the predictor, mediator and outcome variables should be grounded in theory and be clearly articulated (Frazier, Tix & Barron, 2004). In this case, the ILCS Model dictates the proposed relationships between the variables. Additionally, as the process of mediation implies a causal chain, there must be a reasonable assumption that the predictor-outcome relation is causal, and that the mediator is caused by the predictor variable and causes the outcome variable (Frazier, Tix & Barron, 2004). Again, as this analysis is testing the ILCS Model, it is reasonable to assume that this causal chain could be a plausible relation between the distal, intermediate, proximal and outcome variables. Finally, the most common method for testing mediation involves four steps: First, there is shown to be a significant relationship between a predictor and outcome; second, there is shown to be a significant relationship between the mediator and the predictor; third, there is shown to be a significant relationship between the mediator and the outcome; and, fourth, there is shown to be a significant reduction in the strength of the relationship between the predictor and the outcome when the mediator is added to the model (Baron & Kenny, 1986; Frazier, Tix & Barron, 2004). In this analysis, there were no significant relationships between any predictor variables and hypothesized mediator variables (step two of mediation analysis), so further mediation analysis was not possible beyond showing the results of the full models in Model II. Both unadjusted and adjusted odds ratios and 95% confidence intervals were obtained using logistic regression. Findings for this study are reported in Chapter 4.
Qualitative Study Methods

Life histories were conducted, within the context of ethnographic research. Ethnography is defined as a systematic approach to learning about the social and cultural life of communities, institutions, or other settings (LeCompte & Schensul, 2010). Ethnography is based on the assumption that human behaviour, and the ways in which people construct and make meaning of their lives, are highly variable and locally specific (LeCompte & Schensul, 2010). The seven hallmarks of an ethnography are that: it is carried out in a natural setting rather than in a laboratory; it involves face-to-face interaction with participants; it presents an accurate reflection of participant perspectives and behaviour; it uses inductive, interactive and recursive data collection and analysis strategies to build local cultural theories; it uses multiple data sources; it frames all human behaviour and belief within a sociopolitical and historical context; and, it uses the concept of culture as a lens through which to interpret results (LeCompte & Schensul, 2010).

Given the fact that this study’s objective was to understand the strengths-based life experiences of pregnant-involved Aboriginal young women with alcohol and drugs and to explore their perspectives on the intersections of the social determinants of substance use during pregnancy, the use of an ethnographic qualitative approach which is, by nature, inductive, was an ideal fit for this research study. This approach informed the collection of life histories using open-ended, in-depth interviews, which were supplemented by the use of participant-generated maps.

Within this approach, the position of the researcher was as an outside observer. As the researcher is non-Aboriginal, she received training and guidance on the data collection and interpretation of the data from an Aboriginal mentor (who is a member of the Cedar Project Partnership steering committee) as well as from an Aboriginal woman with previous experience conducting interviews with Cedar participants. The researcher met with her mentor prior to and after data collection to learn about the contexts of women’s use, the processes for conducting respectful research, and how best to communicate with women. The mentor also suggested that the researcher offer women a gift during the interviews as a way of honouring their contributions. As such, the researcher made bracelets for each of the women with four coloured beads representing each of the colours of the medicine wheel as well as with a feather charm representing courage. During the interviews, the researcher offered the bracelets to women as a token of appreciation for their participation, but also explained that she thought that they were incredibly brave for sharing their stories with her that day, and that she hoped the bracelets
would remind them of that in the future. This process, as well as communicating to women that they were the experts on this topic, was pivotal in establishing respectful and trusting relationships with women. Many women were still wearing their bracelets when they returned for their follow-up interview, and all women were noticeably more comfortable during their second interview. The mentor also provided insight into the interpretation of the data. For example, she pointed out that for women who do not know their own family’s history well, this must be interpreted as a downstream impact of colonialism. Mentorship, reciprocity and humility were paramount to conducting research with women in a respectful and trust-building way.

By receiving training from an Aboriginal interviewer from the Cedar Project, the researcher was able to adapt the wording and delivery of the interview guide to be more in line with how women spoke. By using appropriate wording and phrasing, the researcher was able to avoid using language that alienated or intimidated women during the interviews, which further supported positive interactions during the interviews. Again, this training was paramount to conducting this research and to collecting rich and high quality data.

Qualitative research questions
The qualitative research study aimed to answer the following questions:

1. What are the life histories of pregnant-involved young Aboriginal women who use alcohol and drugs? (Part A)
2. How do pregnant-involved young Aboriginal women conceptualize and understand the social determinants of substance use and their intersections? (Part B)

Study sample
Convenience sampling methods were used to recruit participants from the Cedar Project. Participants for the interviews for the current study were recruited from Cedar Project study sites in Vancouver, Prince George and the Interior region of British Columbia. Eligibility criteria included being an Aboriginal woman that was a current participant of the Cedar Project, who has had experiences with pregnancy between the ages of 14-30 years old. Study staff approached women who met the eligibility criteria with information about the study, and those who were interested were scheduled for a meeting with the researcher. The researcher then provided each participant with more information about the study, and consent was obtained, after which the interview was conducted. A total of 23 women consented to be interviewed and 17 women completed a second follow up interview. Demographics of interview participants are reported in...
Table 10. A $40 honorarium was provided for each interview, and an additional $20 was provided to reimburse women who had to arrange childcare to attend each interview. When necessary, transportation was arranged for women to attend the interviews. The interviews were conducted at all three of the Cedar Project study sites.

**Qualitative data collection**

Ethnographic open-ended, in-depth interviews were used to elicit women’s life histories (Part A), and supplemented by the use of a participant-generated mapping activity (Part B) that was used as an interview probe. The full interview guides can be found in Appendices E and F. Interviews were digitally voice-recorded and a photograph was taken of participants’ final maps.

**Qualitative study part A- Life history interviews**

Obtaining life history narratives in ethnographic research is a technique to obtain information about the history of specific behaviours of research interest, for example, about exposure to or initiation of alcohol or drug use (Schensul & LeCompte, 2013). Life histories interviews attempt to bring forward or shape a personalized life story within patterns of social relations, interactions and historical constructions in which people’s lives, life experiences and histories are embedded (Goodson, 2013) The life story provides a starting point, and becomes a life history when it is located in historical time, context, and social location (Goodson, 2013).

The life history method, by its nature, enables the destabilization of existing power structures by listening to the voices of the people that the researcher intends to serve, and therefore to "speak the truth to power structures with regard to the historical contexts of people’s lives" (Goodson, 2013, p. 33). The ability of the life history method to resist the tendency in the social sciences to favour and support existing power structures is in keeping with both the postcolonial and intersectionality approaches that guided this research project. Through an individual’s story, it is possible to examine stories of resilience, strength, and survival as well as gender inequalities, oppression, and other practices of power because the narrators speak in ways that reflect their everyday life, and their language and the structure of their life stories can be analysed by the researcher for cultural and historical contingency (Acoose et al., 2009; Riessman, 2008).

An important factor in all of the interviews was the establishment of trust. In order to create a safe environment for participants to share their life experiences, the interviews were conducted in a private setting that was known and convenient to participants, and a trusted
member of the Cedar Project study staff introduced women to the researcher. Cedar Project study staff were also available to both the researcher and women as sources of guidance, comfort and debriefing when necessary. Issues of confidentiality and consent were thoroughly discussed at the beginning of the interview and participants were informed that they had the option to not answer any questions that they did not want to, and that the incentive for the interview was not contingent upon responding to all questions.

At the beginning of each initial interview, participants completed a short demographic questionnaire to provide summary sample characteristics to ensure the sample was varied as well as representative of the larger pregnant-involved Cedar Project study participants. In-depth open-ended questions that were developed with input from an Aboriginal interviewer who worked regularly with the sample population, were used. Women were prompted to begin telling their story in chronological order with the first question, “can you tell me a little about yourself, perhaps starting with where you were born?” Previous research findings and other participants’ testimonies were used as probes to prompt the storyteller to elaborate on the historical and social contexts of her story, and encourage each woman to place or ‘locate’ her life story in a particular time and place, and in relation to other people’s stories and histories, to create her life history (Goodson, 2013). Questions like “what are some of your happiest memories”, “tell me about the first time you remember seeing someone using alcohol or drugs” and “tell me about the first time you found out you were pregnant” were used to encourage participants to elaborate on their life stories, with particular attention to positive events, their experiences with alcohol and drugs and their experiences before, during and following pregnancy. Interviews lasted between one to two hours and participants were invited to come back for a follow-up interview at the end of the initial interview.

**Qualitative study part B- Participant-generated mapping**

Women who completed an initial interview were invited for a second interview to review a summary of their first interview (and make changes, corrections and omissions as necessary), and answer further follow-up questions for clarification or expansion on previous ideas. After the follow-up questions, the participants were invited to participate in a participant-generated mapping activity developed by the researcher, entitled CIRCLES (Charting Intersectional Relationships in the Context of Life Experiences with Substances). Seventeen women who completed the first interview agreed to participate in the second interview. Four women who were not available at the time of follow-up did not complete the interview. Two women declined
to answer the majority of the interview questions in the first interview and so a follow-up interview to complete the maps based on the first interviews was not feasible. The interview guide for these follow-up interviews is included in Appendix F.

Participant-generated maps are one form of graphical elicitation techniques to collect data on relationships and complex ideas. Graphical elicitation techniques involve asking “research participants to provide visual data representing personal understandings of concepts, experiences, beliefs, or behaviours” and have been a particularly useful technique in allowing participants to express complex or abstract ideas or opinions (Copeland & Agosto, 2012, p.7). There are various graphical elicitation techniques in the literature, including concept maps, mind maps, relational maps and diagramming, and their use as a means of data collection is still relatively new (Umoquit, Tso, Burchett, & Dobrow, 2011). Still, the techniques are gaining popularity based on their ability to allow participants to frame their experiences in more unsolicited ways, while also allowing ways to demonstrate how people visualize relationships between various concepts (Copeland & Agosto, 2012; Wheeldon & Faubert, 2009).

For the purposes of this study, the most relevant term in the research for graphical elicitation is “relational maps”. These maps can illustrate the conceptual distance between the participant and other people or concepts, with the importance of these influences diminishing as distance increases from the participant (Copeland & Agosto, 2012). The process of creating these maps varies, with the maps being drawn exclusively by the participants, or a structure or frame of a map being provided by the researcher for participants to complete (Copeland & Agosto, 2012).

However, it is important to realize that drawings, diagrams or maps that are isolated are decontextualized and difficult to analyze (Copeland & Agosto, 2012). One of the main benefits of the use of mapping or diagrams in data collection is that it is complementary to a range of other data collection methods, especially interviewing, and can help research participants focus and reflect on topics of inquiry (Copeland & Agosto, 2012). By using mapping or diagramming data collection methods in conjunction with in-depth interviews, participants may not only be able to reflect upon complex thoughts more clearly and deeply than with interviews alone, but they can also create concise visual snapshots of the complex resulting data for means of data analysis and reporting (Copeland & Agosto, 2012; Umoquit et al., 2011; Wheeldon & Faubert, 2009).
In the population of pregnant-involved young Aboriginal women who use substances, whose first person voices and opinions have been absent from much of the research surrounding substance use, providing women with the opportunity to create their own model of the intersections of the social determinants of health and substance use during pregnancy is particularly relevant. Conventional research tools may pose limitations in the Aboriginal context; issues that have been identified include discomfort with questionnaires, concerns about sensitive written information, misinterpretation of de-contextualized data, as well as cultural differences in expression and understandings (Chase, Mignone & Diffey, 2010). All contribute to an impetus to explore novel methods for collecting data that allow for a more flexible way for participants to communicate personal life experiences and life histories. For example, when Chase et al. (2010) employed an interactive visual game, *The Life Story Board*, to explore Aboriginal women’s experiences with domestic violence, they found that the visual nature of this data collection method enabled participants to explain cultural and contextual significance of life events, and that the storytellers’ life experiences were able to appear as externalized landscapes of elements, entities and meanings that could be seen and reflected upon (Chase et al., 2010). Additionally, this externalization of emotionally charged material events during *The Life Story Board* activity, allowed participants cognitive distance and relief, bringing about insights and new understandings to research participants and researchers alike (Chase et al., 2010).

Furthermore, graphic elicitation techniques are less constrained by language, dialect and literacy, and are less burdened by western psychological, biomedical or religious ideologies and biases (Chase et al., 2010). These are precisely the characteristics that make the use of participant-generated maps particularly relevant to eliciting life histories, and the activity of creating participant-generated maps will be used as an aid for contextualizing women’s life stories from their initial interview, while the maps themselves will be used as additional data for understanding how women view the intersections of social determinants of health and substance use during pregnancy.

In the follow-up interviews, a blank CIRCLES map was presented to the participants (Figure 7). The CIRCLES map was designed by the researcher based on the *Integrated Life Course and Social Determinants of Aboriginal Health Model*.
with three concentric rings, representing the Distal, Intermediate and Proximal determinants of substance use during pregnancy.

Based on the participant’s first interview, the researcher prepared 40 buttons that each had a “social determinant” written on it: 20 grey buttons were prepared with determinants the researcher heard the participant discuss in her first interview; 20 blue buttons were prepared with determinants other participants had used or that previous research had found to be important; and, 20 blank pink buttons were provided for the participant to complete herself, should she want to add other items.

The purpose of the CIRCLES mapping activity was three-fold: 1) to act as a member-checking activity where participants could verify and/or modify the importance of certain social determinants to understanding their life experiences, 2) to be used as an interview approach/strategy, to elicit women’s perspectives on the determinants of substance use during pregnancy and, 3) to inform an evidence-based model of the social determinants of substance use during pregnancy.

Participants were told to use as many or as few buttons as they wanted while creating their map, and to add their own buttons as necessary. The distal circle on the map was explained as representing things in their environment or their histories that impacted everything else on their map, as well as their lives. The intermediate circle on the map was explained as representing things in their community or surroundings that either supported them or hindered them. The proximal circle on the map was explained as representing those things that impacted their lives on the individual level and that were results of the buttons in the intermediate and distal circles. Participants were also informed that this was their own personal map, so there was no wrong way of creating it and that they should trust their instincts on what made sense to them. Also, participants were encouraged to place buttons next to other buttons where they thought there was a relationship between those determinants.

While some participants required very little direction after this initial explanation, others wanted more support. In these cases, the researcher would read each button, explain why she had written that button, and ask the participant’s opinion on that, and then, if necessary, give her examples of why she might place the button on each circle, to further clarify the mapping process. As they created their map, participants were asked clarifying questions to further explain how they understood different determinants and their impacts in their lives. At the end
of the mapping process, participants were asked to explain in their own words what their map meant and what they hoped others might understand or learn from looking at their map. The interview was digitally audio-recorded and transcribed, and photos were taken of each woman’s completed CIRCLES map.

**Qualitative Data Analysis**

All audio-recorded interview data were transcribed verbatim. An initial analysis of the first interview transcript was conducted prior to the second interview to identify any and all of the social determinants of health the participant discussed throughout her life story, in order to inform the second interview, as well as to formulate follow-up questions. Following the two interviews, the transcripts from both interviews were included in the data set and the CIRCLES map generated was used to supplement, clarify, and confirm the analysis of women’s life story narratives. In cases where there was no second interview conducted, the initial transcript was analysed on its own.

**Life history interview analysis (Part A).**

The process used for data analysis was inductive and non-linear (Roper & Shapira, 2000). To begin, all textual data was entered into the computer software program, NVivo™ 2010. Initially, several reviews of the entire data set were conducted using a constant comparative approach to identify important or interesting features of the data. An initial coding framework was developed based on these initial reviews of the entire data set to begin to organize the data into meaningful categories. The transcripts were coded using this framework and codes were examined to find common themes in women’s responses and to identify trends across all cases, as well as alternatives that deviated from these dominant themes. The coding framework was further developed and refined throughout the analysis in order to fully capture emerging themes and alternatives. Specifically, data were analyzed for themes to describe the social and historical contexts of women’s experiences, their self-representations, the way they understand these experiences and then respond to and/or reframe them in relation to social discourses regarding pregnancy and health (Reissmann, 2008). In an effort to conduct multi-level intersectional analysis of the transcripts, social practices like social action and speech were also analyzed to understand how “individuals delineate themselves in social contexts, construct identities, process symbolic representations, and support social structures or challenge them” (Winker & Degele, 2011, p.56). In order to do this, transcripts were read closely for any explicit or implicit ways that women constructed their identities or social positions in relation to other social
constructions, and in particular in describing their positions as Aboriginal women, mothers and/or substance users. While for some women these constructions were explicit, other women implicitly discussed their identities and positions through their interactions with other people or systems. Women’s constructed identities were apparent not only through how they discussed how they perceived opportunities and resources available to them based on their positions in life, but also in terms of what they perceived that they were entitled to expect from others and society as a whole on account of these social locations.

**CIRCLES maps analysis (Part B).**

The analysis of the CIRCLEs maps focused on the maps women produced and the interview data gathered during the mapping exercise. This information was further supplemented as necessary with information women provided in their life history interviews. The analysis began by comparing and contrasting women’s mapping strategies and their resulting maps to identify patterns in the way they constructed social determinants in their lives. At this stage, each participant’s map was closely reviewed paying attention to the buttons each woman used to represent important social determinants in her life alongside the information from her interview transcripts to identify the way women constructed these influential factors and positioned them in relation to their current situation and future aspirations. The buttons used by women and their transcripts were examined to find common themes in women’s responses and to identify trends across all cases, as well as alternatives that deviated from these dominant themes and the determinants identified by women were grouped into ten themes. Within these themes, women had varying perspectives on how determinants in these groups impacted their lives and this variation was reflected in the reporting of the findings.

In an effort to honour the Aboriginal community’s priority of focusing on strength and wellness models of health, the analysis of the findings was also guided by the First Nations Health Authority in British Columbia’s concept of wellness depicted visually in their Perspectives of Wellness (Figure 8). The model was developed by the First National Health Authority to serve as a guide for conducting health research with Aboriginal people in BC, with the goal of creating a shared understanding of a holistic vision of wellness. As such, this model was used as lens in the interpretation of women’s maps, and the findings are reported with an eye to how the determinants either detract from or contribute to women’s holistic health and overall wellness.
Convergent Mixed Methods Study Methods

The main goal of mixed methods analysis is to determine if the findings from the different studies converge, and to understand how they converge.

Mixed methods research questions

The mixed methods study aimed to answer the following research questions:

1. What are the social determinants of substance use among pregnant-involved young Aboriginal women?
2. How do the social determinants of substance use among pregnant-involved young Aboriginal women intersect to support or detract from overall wellness?

Mixed Methods Analysis

There are a number of data analysis strategies that can be used to assess for convergence, and for the purposes of this research, the “side-by-side comparison for merged data analysis” strategy was used. In this analysis, the quantitative and qualitative results were organized into a summary table to support and enable comparisons (Creswell & Clark, 2011; Hankivsky & Grace, 2014). As reported on in Chapter 7 and shown in Table 12 (p.147), as the final step of this research project, to examine how findings converged or diverged in respect to factors that either contributed to (+) or detracted from (+) women’s wellness. In an effort to prioritize women’s voices and perspectives, the summary table of findings was organized according to the themes identified by young Aboriginal mothers while they created their own map of the social
determinants of substance use during pregnancy in the CIRCLES mapping activity. By comparing these diverse kinds of data in this final analysis stage, further and richer understandings of the intersections of social determinants in the lives of Aboriginal women were achieved (Grace, 2014). Where there were divergent findings, reconciliation was possible through plausible interpretation based on sense-making of findings (Pluye, Grad, Levine & Nicolau, 2009). When reconciliation was not possible, further research questions were suggested for future research initiation to explore the divergence in question (Pluye et al., 2009).

**Ethical Considerations**

In order to ensure that this research project was conducted ethically, special attention has been paid to Chapter 9 of the Tri-Council policy statement *Ethical Conduct for Research Involving Humans* (2010). The Cedar Project also follows these guidelines in the development and conducting of all of their research activities. In particular, Aboriginal personnel were heavily involved in the design and pilot of their research instrument, including addressing sensitivities to historical trauma. The Cedar Project is also overseen by the Cedar Project Partnership which is composed of Aboriginal investigators, collaborators and organizers, including Aboriginal AIDS organizations. The partnership is involved in the conception, design and implementation of the Cedar Project and was created to ensure that the research generated by the project would be accountable to the communities its results affect. The Partnership also approves the conception, design and implementation of all new research involving the Cedar Project data, and ensures community representation of these projects. In addition, quarterly meetings are held whereby the Partnership gathers to discuss emerging research concerns, knowledge translation strategies and priorities, representation of data sets and ethical issues.

One of the main stipulations in the Tri-Council Policy Statement is that any research conducted with First Nations, Inuit or Metis peoples, must explicitly engage the community involved through establishing relationships to promote mutual trust and communication, the identification of mutually beneficial research goals, and to ensure that the conduct of the research adheres to the core principles of Respect for Persons, Concern for Welfare, and Justice. In the case of student research, where the programs do not typically accommodate the time required to establish these collaborative relationships, it is suggested the students instead seek mentorship from experienced researchers who can introduce students to communities and monitor their ethical practice to facilitate the trust-building process and to advance the student’s progress (CIHR, SHRC, NSERC, 2010). As such, this research project was conducted with mentoring
from experienced Cedar Project researchers, as well as in collaboration with the Cedar Project Partnership. Collaboration with the Cedar Project Partnership ensured an opportunity to discuss the risks and potential benefits of the proposed research, while providing opportunities to minimize these risks. Additionally, by explicitly focusing on the strengths-based narratives of resilience and survival that characterize these women’s lives, this research project contributes a counter-narrative to the often pathologizing and stigmatizing presentations of Aboriginal mothers that dominate research findings and mainstream society, today. Women’s perspectives and voices have been prioritized as necessary contributions to extend the boundaries of knowledge in this field.

Promoting or restoring women’s contributions to knowledge is central to this research project, and approaches that are attentive to cultural considerations can help to ensure the equitable participation and benefit of women throughout the life cycle of a research project (Battiste, 2007; Bell & Salmon, 2011). Specifically, this research project supported participation by women in the interviews by providing transportation to and from the interviews, providing light refreshments, and providing reimbursement for childcare during the interview if necessary. The Cedar Project Partnership was consulted to ensure that cultural norms were respected, that the safety of participants was protected, and that potential harms to the larger community were minimized to the extent possible. Specifically, training with experienced interviewers from the Cedar Project prior to beginning data collection, as well as guidance from an assigned Cedar Project Partnership mentor, supported the researcher in conducting data collection with women. In terms of interpretation and analysis, the findings from this research project were presented to the Cedar Project Partnership at their quarterly meeting in August 2015 for their feedback on the analysis of the data as well as the interpretation of the findings. The Partnership has therefore participated in the interpretation of data and the review of research findings, and, moving forward, will be consulted before the completion of all relevant publications from the research to ensure that the findings have been appropriately contextualized. Final reports, as well as any other relevant or requested materials will be made available to the Partnership to share with community members as appropriate.

The protocol for this research project was approved by the supervisory committee guiding this dissertation research project. In addition, the research protocol underwent full-board review by the UBC Providence Health Care research ethics board for behavioural health research and the Cedar Project Partnership that oversees all research conducted with Cedar participants.
Chapter 4 Using an Aboriginal-Specific Social Determinants of Health Model to Predict Alcohol and Drug Use among Pregnant-Involved Young Aboriginal Women

This chapter reports on the findings for the quantitative study that was conducted to address the first research objective of this research project. Findings are reported to describe the social contexts of the lives of pregnant-involved young Aboriginal women, as well as to test the applicability of the ILCSD Model for predicting substance use among this population. The research questions and hypotheses guiding this study as well as the details on the methods and analysis used for this study can be found in Chapter 3.

Findings

The sample for this secondary analysis included 291 pregnant-involved young Aboriginal women: 154 (52.9%) completed their baseline questionnaires in Vancouver, 111 (38.1%) completed their baseline questionnaires in Prince George, and 26 (9%) completed their baseline questionnaires in the Interior region of British Columbia. The median age of participants was 24 years old, and the majority of participants were single (64.4%), had not completed high school (79.5%), and were living in unstable housing situations (66.2%). Also, the majority of women had ever been homeless (65.9%), while 67.7% of women had ever been sexually abused and the median age of first sexual abuse was six years old (range 1-20 years old).

The social contexts of the lives of young, pregnant-involved Aboriginal women

Table 6 shows comparisons of all the included social determinants of health based on location of the participant, and addresses the first research question of this study. Participants in Vancouver were older and more likely to have ever been homeless, while participants in both Vancouver and Prince George were more likely than Interior participants to have been taken from their biological parents, to have participated in survival sex ever or in the last six months, to have lower monthly incomes, to be interested in culturally specific treatment options, and to have accessed a needle exchange or a social/welfare worker in the last six months. Vancouver and Prince George participants were less likely than Interior participants to speak a traditional language, to have visited the emergency room or have been treated by an ambulance in the past six months, and to have accessed a counsellor in the last six months. Participants in Prince George left home for the first time at a younger age, and were more likely to state that they had needed any social or health service or had accessed housing services in the previous 6 months.
Table 6 Comparison of Proximal, Intermediate and Distal Determinants between Participants in Vancouver, Prince George and the Interior

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Vancouver (n=154)</th>
<th>Prince George (n=111)</th>
<th>Interior (n=26)</th>
<th>p-value</th>
<th>Total (%) (N=291)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proximal Determinants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median age at enrollment, years (range)</td>
<td>24 (16-30)</td>
<td>23 (15-30)</td>
<td>23 (16-30)</td>
<td>0.024</td>
<td>24 (15-30)</td>
</tr>
<tr>
<td>Single</td>
<td>107 (69.9)</td>
<td>67 (60.4)</td>
<td>12 (48)</td>
<td>0.280</td>
<td>186 (64.4)</td>
</tr>
<tr>
<td>Did not complete high-school</td>
<td>121 (79.1)</td>
<td>84 (77.1)</td>
<td>24 (92.3)</td>
<td>0.220</td>
<td>229 (79.5)</td>
</tr>
<tr>
<td>Median monthly income, dollars (range)</td>
<td>558 (80-13,000)</td>
<td>850 (40-10,100)</td>
<td>1035 (100-5000)</td>
<td>0.023</td>
<td>748 (40,30,000)</td>
</tr>
<tr>
<td>Survival sex, ever</td>
<td>116 (76.8)</td>
<td>77 (72)</td>
<td>10 (38.5)</td>
<td>&lt;0.001</td>
<td>203 (71.5)</td>
</tr>
<tr>
<td>IF YES, (n=203)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median age of first survival sex, years (range)</td>
<td>16 (11-28)</td>
<td>16 (9-27)</td>
<td>17 (12-23)</td>
<td>0.303</td>
<td>16 (9-28)</td>
</tr>
<tr>
<td>Survival sex, last 6 months</td>
<td>89 (57.8)</td>
<td>65 (58.6)</td>
<td>5 (19.2)</td>
<td>0.001</td>
<td>159 (54.6)</td>
</tr>
<tr>
<td>Unstable Housing (last 6 months)</td>
<td>109 (71.2)</td>
<td>70 (63.1)</td>
<td>13 (50)</td>
<td>0.071</td>
<td>192 (66.2)</td>
</tr>
<tr>
<td>Ever lived on the streets (&gt;3 nights)</td>
<td>116 (75.3)</td>
<td>62 (56.4)</td>
<td>13 (50)</td>
<td>0.001</td>
<td>191 (65.9)</td>
</tr>
<tr>
<td>Median age first left home, years (range)</td>
<td>16 (8-22)</td>
<td>14 (8-19)</td>
<td>16 (12-21)</td>
<td>0.001</td>
<td>15 (8-22)</td>
</tr>
<tr>
<td>Median number of pregnancies (range)</td>
<td>2 (1-5)</td>
<td>2 (1-5)</td>
<td>2 (1-5)</td>
<td>0.238</td>
<td>2 (1-5)</td>
</tr>
<tr>
<td>Median age of first pregnancy, years (range)</td>
<td>17 (12-25)</td>
<td>17 (10-24)</td>
<td>18.16 (13-24)</td>
<td>0.068</td>
<td>17 (10-25)</td>
</tr>
<tr>
<td>Ever sexually abused</td>
<td>102 (66.2)</td>
<td>80 (72.1)</td>
<td>15 (57.7)</td>
<td>0.315</td>
<td>197 (67.7)</td>
</tr>
<tr>
<td>IF YES, (n=197)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median age first sexually abused (years) (range)</td>
<td>6 (1-18)</td>
<td>8 (2-19)</td>
<td>9 (3-20)</td>
<td>0.057</td>
<td>6 (1-20)</td>
</tr>
<tr>
<td>Child apprehended, ever</td>
<td>72 (49.7)</td>
<td>47 (44.3)</td>
<td>8 (36.4)</td>
<td>0.430</td>
<td>127 (46.5)</td>
</tr>
<tr>
<td><strong>Intermediate Determinants</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever taken from biological parent</td>
<td>104 (67.5)</td>
<td>75 (67.6)</td>
<td>11 (42.3)</td>
<td>0.036</td>
<td>190 (65.3)</td>
</tr>
<tr>
<td>IF YES, (n=190)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median age first taken from biological parents (range)</td>
<td>4 (1-17)</td>
<td>5 (0-14)</td>
<td>6 (1-13)</td>
<td>0.666</td>
<td>5 (0-17)</td>
</tr>
<tr>
<td>Speak traditional language</td>
<td>21 (13.6)</td>
<td>22 (20)</td>
<td>12 (46.2)</td>
<td>&lt;0.001</td>
<td>55 (19)</td>
</tr>
<tr>
<td>Ever been to a reserve</td>
<td>121 (81.2)</td>
<td>98 (89.1)</td>
<td>25 (96.2)</td>
<td>0.056</td>
<td>244 (85.6)</td>
</tr>
<tr>
<td>Interested in more culturally specific treatment</td>
<td>77 (50)</td>
<td>72 (64.9)</td>
<td>8 (32)</td>
<td>0.004</td>
<td>157 (54.1)</td>
</tr>
<tr>
<td>ER Last 6 months</td>
<td>49 (31.8)</td>
<td>53 (47.7)</td>
<td>15 (57.7)</td>
<td>0.005</td>
<td>117 (40.2)</td>
</tr>
<tr>
<td>Hospital admission last 6 months</td>
<td>32 (21.1)</td>
<td>22 (19.8)</td>
<td>9 (34.6)</td>
<td>0.245</td>
<td>63 (21.8)</td>
</tr>
<tr>
<td>Characteristic</td>
<td>Vancouver (n=154)</td>
<td>Prince George (n=111)</td>
<td>Interior (n=26)</td>
<td><em>p</em>-value</td>
<td>Total (%) (N=291)</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>-------------------</td>
<td>-----------------------</td>
<td>----------------</td>
<td>-----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Ambulance last 6 months</td>
<td>37 (24)</td>
<td>20 (18)</td>
<td>12 (46.2)</td>
<td>0.010</td>
<td>69 (23)</td>
</tr>
<tr>
<td>Substance Use Treatment, Ever</td>
<td>110 (71.4)</td>
<td>92 (82.9)</td>
<td>22 (84.6)</td>
<td>0.057</td>
<td>224 (77)</td>
</tr>
<tr>
<td>Accessed a counsellor, last 6 months</td>
<td>25 (16.2)</td>
<td>39 (35.1)</td>
<td>13 (50)</td>
<td>&lt;0.001</td>
<td>214 (73.5)</td>
</tr>
<tr>
<td>Accessed food services, last 6 months</td>
<td>85 (55.2)</td>
<td>58 (52.3)</td>
<td>12 (46.2)</td>
<td>0.669</td>
<td>136 (46.7)</td>
</tr>
<tr>
<td>Accessed health care provider, last 6 months</td>
<td>77 (50)</td>
<td>58 (52.3)</td>
<td>13 (50)</td>
<td>0.933</td>
<td>148 (50.9)</td>
</tr>
<tr>
<td>Accessed housing services, last 6 months</td>
<td>35 (22.7)</td>
<td>48 (43.2)</td>
<td>7 (26.9)</td>
<td>0.002</td>
<td>201 (69.1)</td>
</tr>
<tr>
<td>Accessed needle exchange, last 6 months</td>
<td>73 (47.4)</td>
<td>85 (76.6)</td>
<td>4 (15.4)</td>
<td>&lt;0.001</td>
<td>129 (44.3)</td>
</tr>
<tr>
<td>Accessed support group, last 6 months</td>
<td>9 (5.8)</td>
<td>11 (9.9)</td>
<td>4 (15.4)</td>
<td>0.189</td>
<td>24 (8.2)</td>
</tr>
<tr>
<td>Accessing social/welfare worker, last 6 months</td>
<td>68 (44.2)</td>
<td>69 (62.2)</td>
<td>6 (23.1)</td>
<td>&lt;0.001</td>
<td>148 (50.9)</td>
</tr>
<tr>
<td>Denied housing due to drug use</td>
<td>45 (29.4)</td>
<td>24 (21.6)</td>
<td>7 (26.9)</td>
<td>0.363</td>
<td>76 (26.2)</td>
</tr>
<tr>
<td>Denied service due to drug use</td>
<td>37 (24)</td>
<td>18 (16.2)</td>
<td>6 (23.1)</td>
<td>0.294</td>
<td>61 (21)</td>
</tr>
<tr>
<td>Have barriers to accessing services</td>
<td>13 (8.5)</td>
<td>7 (6.3)</td>
<td>4 (15.4)</td>
<td>0.315</td>
<td>24 (8.3)</td>
</tr>
<tr>
<td>Needed a service, last 6 months</td>
<td>100 (65.8)</td>
<td>93 (83.8)</td>
<td>18 (69.2)</td>
<td>0.005</td>
<td>211 (73)</td>
</tr>
</tbody>
</table>

**Distal Determinants**

- At least one parent attended Residential School: 73 (47.4) vs. 49 (45) vs. 9 (34.6); *p*-value: 0.478; Total: 131 (45.3)
- Residential School Family History: 104 (68) vs. 81 (73) vs. 22 (84.6); *p*-value: 0.198; Total: 207 (71.1)
- Median number of family members in Residential School (range): 4 (1-19) vs. 3.5 (0-36) vs. 5 (0-29); *p*-value: 0.648; Total: 3 (0-36)
- At least one caregiver with drug or alcohol addiction: 124 (81) vs. 87 (78.4) vs. 30 (76.9); *p*-value: 0.813; Total: 231 (79.7)
- Family history of survival sex: 50 (43.1) vs. 39 (52) vs. 5 (50); *p*-value: 0.474; Total: 94 (46.8)

*Note.* For continuous variables, range is reported instead of percentage.
Testing the ILCSD Model for predicting heavy versus light substance use

In order to address the second research question, the ILCSD Model’s ability to predict heavy versus light substance use was assessed for each dependent variable. If variables remained significant even after block entry according to the ILCSD model, then there was no evidence of mediation occurring.

Heavy versus light alcohol use.

Table 7 shows the results from the univariate and multivariate logistic regression analyses conducted with pattern of alcohol use as the dependent variable. In univariate analyses, participants who lived in Vancouver and Prince George were significantly less likely to have more than six drinks in one occasion more than once a month than participants who lived in the Interior (OR 0.33, 95% CI 0.13, 0.82; OR 0.35, 95% CI 0.14, 0.88 respectively). Participants who had reported their sexual abuse to somebody, were also less likely to have more than six drinks in one occasion more than once a month (OR 0.40, 95% CI 0.22, 0.73). In Model 1, multivariate logistic regression was conducted, where both interview location and sexual abuse reporting were entered as covariates in the model. Vancouver participants were significantly less likely than participants in the Interior to use alcohol more than monthly (OR 0.30, 95% CI 0.12, 0.77) and having reported sexual abuse was also protective (OR 0.38, 95% CI 0.21, 0.71). Model II tested the ILCSD Model using the block entry shown in Figure 9. Since both determinants remained statistically significant, their direct effects seem to override any mediation expected according to the ILCSD model.
### Table 7 Univariate and Multivariate Modeling for Alcohol Use among Participants (N=210)

<table>
<thead>
<tr>
<th></th>
<th>Monthly or less (n=144)</th>
<th>More than monthly (n=66)</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR Model I (95% CI)</th>
<th>Adjusted OR Model II (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior</td>
<td>11 (7.6)</td>
<td>13 (19.9)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Prince George</td>
<td>61 (42.4)</td>
<td>25 (37.8)</td>
<td>0.35* (0.14, 0.88)</td>
<td>0.38 (0.14, 1.01)</td>
<td>0.38 (0.14, 1.01)</td>
</tr>
<tr>
<td>Vancouver</td>
<td>72 (50)</td>
<td>28 (42.4)</td>
<td>0.33* (0.13, 0.82)</td>
<td>0.30* (0.11, 0.78)</td>
<td>0.30* (0.11, 0.78)</td>
</tr>
<tr>
<td><strong>Sex Abuse Reported</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>55 (38.2)</td>
<td>40 (60.6)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>89 (61.8)</td>
<td>26 (39.3)</td>
<td>0.40** (0.22, 0.73)</td>
<td>0.40** (0.21, 0.74)</td>
<td>0.40** (0.21, 0.74)</td>
</tr>
<tr>
<td><strong>Overall Percentage Correct for Adjusted Models</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>70.5</td>
</tr>
</tbody>
</table>

* p < .05, ** p < .01, *** p < .001.

---

**Figure 9.** Block entry for Model II logistic regression (pattern of alcohol use)
**Heavy versus light smoked drug use.**

Table 8 shows the results from the univariate and multivariate logistic regression analyses conducted with pattern of smoked drug use as the dependent variable. In univariate analyses, daily or more use of smoked drugs was independently associated with living in Vancouver, being single, having unstable housing, having more pregnancies, having your first pregnancy at a younger age, having participated in survival sex ever or in the last six months, having been denied a service due to drug use in the last six months, and have had either parent attend residential school. In Model I, all variables that were statistically significant at the 0.05 cut-off were entered into the logistic regression as covariates. In this model daily or more use of smoked drugs was independently associated with being single (OR 2.36, 95% CI 1.09, 5.08), having unstable housing (OR 2.17, 95% CI 1.03, 4.58), and having had either parent attend residential school (OR 4.10, 95% CI 1.17, 14). In Model II, statistically significant variables from Model I were entered in blocks as shown in Figure 10 to test the ILCSD Model. All variables remained significantly associated, suggesting no evidence of mediation.
Table 8 Univariate & Multivariate Modeling for Drug Use (Smoked) among Participants (N=285)

<table>
<thead>
<tr>
<th>Variable</th>
<th>&lt; Daily (n=49)</th>
<th>≥ Daily (n=236)</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR Model I</th>
<th>Adjusted OR Model II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interior</td>
<td>9 (18.4)</td>
<td>16 (6.8)</td>
<td>Reference</td>
<td>Reference</td>
<td>-</td>
</tr>
<tr>
<td>Prince George</td>
<td>24 (49)</td>
<td>86 (36.4)</td>
<td>2.01 (0.79, 5.13)</td>
<td>1.11 (0.33, 3.71)</td>
<td>-</td>
</tr>
<tr>
<td>Vancouver</td>
<td>16 (32.7)</td>
<td>134 (56.8)</td>
<td>4.71** (1.79, 12.29)</td>
<td>3.45 (1.00, 12.00)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Relationship Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legally Married</td>
<td>24 (49)</td>
<td>66 (28.1)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Common Law</td>
<td>3 (6.1)</td>
<td>2 (0.9)</td>
<td>0.24 (0.04, 1.54)</td>
<td>0.15 (0.01, 2.00)</td>
<td>0.26 (0.03, 1.93)</td>
</tr>
<tr>
<td>Widowed/Separated/Divorced</td>
<td>2 (4.1)</td>
<td>3 (1.3)</td>
<td>0.55 (0.09, 3.47)</td>
<td>0.93 (0.06, 12.47)</td>
<td>0.53 (0.08, 3.58)</td>
</tr>
<tr>
<td>Single</td>
<td>20 (40.8)</td>
<td>164 (69.8)</td>
<td>2.98** (1.54, 5.76)</td>
<td>2.40* (1.11, 5.20)</td>
<td>3.08** (1.58, 6.02)</td>
</tr>
<tr>
<td><strong>Housing Stability, last 6 months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stable</td>
<td>25 (51)</td>
<td>71 (30.2)</td>
<td>Reference</td>
<td>Reference</td>
<td>-</td>
</tr>
<tr>
<td>Unstable</td>
<td>24 (49)</td>
<td>164 (69.8)</td>
<td>2.41** (1.29, 4.5)</td>
<td>2.02 (0.95, 4.31)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Median Number of Pregnancies</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number (SD)</td>
<td>2 (1.3)</td>
<td>2 (1.4)</td>
<td>1.29* (1.02, 1.63)</td>
<td>1.46 (1.00, 2.13)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Median Age of First Pregnancy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years (SD)</td>
<td>18 (2.6)</td>
<td>17 (2.6)</td>
<td>0.89* (0.77, 0.98)</td>
<td>0.92 (0.78, 1.09)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Sex Work, Ever</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>22 (45.8)</td>
<td>58 (25)</td>
<td>Reference</td>
<td>Reference</td>
<td>-</td>
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<tr>
<td>Yes</td>
<td>26 (54.2)</td>
<td>174 (75)</td>
<td>2.54** (1.34, 4.82)</td>
<td>1.54 (0.54, 4.42)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Sex Work, last 6 months</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>32 (65.3)</td>
<td>96 (40.7)</td>
<td>Reference</td>
<td>Reference</td>
<td>-</td>
</tr>
<tr>
<td>Yes</td>
<td>17 (34.7)</td>
<td>140 (59.3)</td>
<td>2.75** (1.44, 5.22)</td>
<td>1.77 (0.61, 5.13)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Service Denied due to Drug Use, last 6 mos</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>45 (91.8)</td>
<td>181 (76.7)</td>
<td>Reference</td>
<td>Reference</td>
<td>-</td>
</tr>
<tr>
<td>Residential School, Parents</td>
<td>&lt; Daily (n=49) N (%)</td>
<td>≥ Daily (n=236) N (%)</td>
<td>Unadjusted OR (95% CI)</td>
<td>Adjusted OR Model I</td>
<td>Adjusted OR Model II</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------------------</td>
<td>----------------------</td>
<td>------------------------</td>
<td>---------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>Yes</td>
<td>4 (8.2)</td>
<td>55 (23.3)</td>
<td>3.42* (1.18, 9.93)</td>
<td>3.04 (0.97, 9.54)</td>
<td>-</td>
</tr>
<tr>
<td>No</td>
<td>31 (63.3)</td>
<td>125 (53.4)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes, one</td>
<td>4 (8.2)</td>
<td>53 (22.6)</td>
<td>3.29* (1.11, 9.77)</td>
<td>4.12* (1.20, 14.20)</td>
<td>3.67* (1.21, 11.45)</td>
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<tr>
<td>Yes, both</td>
<td>14 (28.6)</td>
<td>56 (23.9)</td>
<td>0.99 (0.49, 2.01)</td>
<td>1.00 (0.42, 2.36)</td>
<td>0.99 (0.47, 2.08)</td>
</tr>
</tbody>
</table>

Overall Percentage Correct For Adjusted Models

87.0 83.2
Figure 10. Block entry for Model II logistic regression (pattern of smoked drug use)

**Heavy versus light injected drug use.**

Table 9 shows the results from the univariate and multivariate logistic regression analyses conducted with pattern of injection drug use as the dependent variable. In univariate analyses, daily or more use of injection drugs was independently associated with a higher number of pregnancies, survival sex in the last six months, and having ever received treatment. Having received sexual abuse counselling, attending support groups in the last six months, and having experienced barriers to services in the last six months were all protective. In Model I, all variables that were statistically significant at the 0.05 cut-off were entered into the logistic regression as covariates. In Model I, having ever received substance use treatment and number of pregnancies were no longer significantly associated with daily or more injection drug use. In Model II, statistically significant variables from Model I were entered in blocks as shown in Figure 11 to test the ILCSD Model. All variables remained significantly associated, suggesting no evidence of mediation. The results from this study are discussed further in Chapters 7 and 8.
Table 9 Univariate and Multivariate For Drug Use (Injected) among Cedar Participants Who Have Ever Been Pregnant (N=184)

<table>
<thead>
<tr>
<th></th>
<th>&lt; Daily (n= 76)</th>
<th>≥ Daily (n=108)</th>
<th>Unadjusted OR (95% CI)</th>
<th>Adjusted OR Model 1</th>
<th>Adjusted OR Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Number of Pregnancies (SD)</td>
<td>3 (1.46)</td>
<td>2 (1.37)</td>
<td>0.77* (0.63, 0.95)</td>
<td>0.80 (0.62, 1.02)</td>
<td>-</td>
</tr>
<tr>
<td>Survival Sex, last 6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>37 (48.7)</td>
<td>32 (29.6)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>39 (51.3)</td>
<td>76 (70.4)</td>
<td>2.25** (1.22, 4.15)</td>
<td>2.75** (1.13, 4.74)</td>
<td>2.71** (1.40, 5.23)</td>
</tr>
<tr>
<td>Sex Abuse Counselling</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>No</td>
<td>48 (63.2)</td>
<td>88 (81.5)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>28 (36.8)</td>
<td>20 (18.5)</td>
<td>0.39** (0.2, 0.76)</td>
<td>0.42* (0.20, 0.87)</td>
<td>0.35** (0.17, 0.71)</td>
</tr>
<tr>
<td>Substance Use Treatment, Ever</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>No</td>
<td>12 (15.8)</td>
<td>31 (28.7)</td>
<td>Reference</td>
<td>Reference</td>
<td>-</td>
</tr>
<tr>
<td>Yes</td>
<td>64 (84.2)</td>
<td>77 (71.3)</td>
<td>2.15* (1.02, 4.52)</td>
<td>1.73 (0.77, 3.91)</td>
<td>-</td>
</tr>
<tr>
<td>Support Group, last 6 months</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>66 (86.8)</td>
<td>104 (96.3)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>10 (13.2)</td>
<td>4 (3.7)</td>
<td>0.25* (0.08, 0.84)</td>
<td>0.22* (0.06, 0.79)</td>
<td>0.20* (0.06, 0.70)</td>
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<td>Service Barriers, last 6 months</td>
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</tr>
<tr>
<td>No</td>
<td>65 (85.5)</td>
<td>103 (96.3)</td>
<td>Reference</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Yes</td>
<td>11 (14.5)</td>
<td>4 (3.7)</td>
<td>0.23* (0.07, 0.75)</td>
<td>0.20* (0.06, 0.72)</td>
<td>0.21* (0.06, 0.73)</td>
</tr>
<tr>
<td>Overall Percentage Correct for Adjusted Models</td>
<td>72.5</td>
<td>69.4</td>
<td></td>
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</tbody>
</table>

Note. For continuous variables, standard deviation is reported instead of percentage.
* p < .05, ** p < .01, *** p < .001.
Figure 11. Block entry for Model II logistic regression (pattern of injected drug use)
Chapter 5 Life History Interviews: Exploring the Life Experiences of Pregnant-Involved Young Aboriginal Women who have used Alcohol or Drugs

This chapter reports on the findings derived from the analysis of the life history interviews conducted as part of the qualitative study to address part of the second objective of this research project. Findings are reported to describe the strengths-based life experiences of pregnant-involved young Aboriginal women. The research questions and hypotheses guiding this study as well as the details on the methods and analysis used for this study can be found in Chapter 3.

Findings
Participant characteristics are reported below, followed by a summary of women’s life histories and more detailed thematically grouped results of women’s life experiences.

Participant characteristics

Twenty-three interviews (eight in Prince George, ten in Vancouver and six in the Interior of BC) were completed, with 17 of the participants returning for one follow-up interview a few days after the first one. The participants ranged in age from 21 to 40 years old, with an average age of 30, although the majority of women were in their twenties. The mean number of pregnancies among the participants was four, ranging between one to eight, while the mean age of first pregnancy was 18.5, ranging from 13 years old to 28 years old. Three participants were pregnant at the time of interview, while almost half of the participants’ youngest child was under six years old. Six women had custody of at least one of their children at the time of the interview, while many of the participants were in the process to regain custody after their children had been apprehended. Almost 70% of participants had had at least one child apprehended by the Ministry of Child and Family Services, and about half of the participants currently had a child in state care mostly on account of apprehensions due to alcohol or drug use. A little over half of the participants had at least one child living with a family member at the time of interview. Among the 15 women who had ever participated in survival sex, age of first sex work ranged from 15 to 26 years old. Table 10 provides additional demographic information for the study sample.
### Table 10 Participant Demographics (N=23)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Socioeconomic Status (SES)</strong></td>
<td></td>
</tr>
<tr>
<td>Married or Living as Common Law</td>
<td>10 (43.5)</td>
</tr>
<tr>
<td>High School Diploma or higher</td>
<td>7 (30.4)</td>
</tr>
<tr>
<td>Survival Sex, ever</td>
<td>15 (65.2)</td>
</tr>
<tr>
<td><strong>Physical Environments</strong></td>
<td></td>
</tr>
<tr>
<td>Left home after 16 years of age</td>
<td>14 (60.9)</td>
</tr>
<tr>
<td>Ever Homeless</td>
<td>20 (87.0)</td>
</tr>
<tr>
<td>At one address for longer than previous 6 months</td>
<td>13 (56.5)</td>
</tr>
<tr>
<td>Stable Housing</td>
<td>11 (47.8)</td>
</tr>
<tr>
<td><strong>Health Behaviours</strong></td>
<td></td>
</tr>
<tr>
<td>Not currently using Alcohol</td>
<td>16 (69.5)</td>
</tr>
<tr>
<td>Not currently using Smoked Drugs</td>
<td>12 (52.2)</td>
</tr>
<tr>
<td>Ever Used Injection Drugs</td>
<td>16 (69.6)</td>
</tr>
<tr>
<td>Not currently using Injection Drugs</td>
<td>15 (65.2)</td>
</tr>
<tr>
<td>Treatment, Current</td>
<td>10 (43.5)</td>
</tr>
<tr>
<td>Treatment, Ever</td>
<td>20 (87.0)</td>
</tr>
<tr>
<td><strong>Pregnancy and Mothering</strong></td>
<td></td>
</tr>
<tr>
<td>Reduced or Quit Alcohol Use during most recent Pregnancy</td>
<td>13 (56.5)</td>
</tr>
<tr>
<td>Reduced or Quit Drug Use during most recent Pregnancy</td>
<td>17 (73.9)</td>
</tr>
<tr>
<td>Currently Pregnant</td>
<td>3 (13.0)</td>
</tr>
<tr>
<td>Youngest Child under 6 years old</td>
<td>11 (47.8)</td>
</tr>
<tr>
<td>Ever had a Child Apprehended by Ministry</td>
<td>16 (69.6)</td>
</tr>
<tr>
<td>Have Custody of at least one Child</td>
<td>6 (26.1)</td>
</tr>
<tr>
<td>Have at least one Child living with Family</td>
<td>12 (52.2)</td>
</tr>
<tr>
<td>Have at least one Child in Care of the Ministry</td>
<td>11 (47.8)</td>
</tr>
<tr>
<td><strong>Colonialism &amp; Cultural Continuity</strong></td>
<td></td>
</tr>
<tr>
<td>Speak a Native/Traditional Language</td>
<td>10 (43.5)</td>
</tr>
<tr>
<td>Ever Taken from Biological Parents</td>
<td>19 (82.6)</td>
</tr>
<tr>
<td>At least one Parent attended Residential School</td>
<td>14 (60.9)</td>
</tr>
<tr>
<td>Other Family Members attended Residential School</td>
<td>20 (87.0)</td>
</tr>
</tbody>
</table>

### Life histories

Women shared their life histories in various ways. Some women who were sharing their story for the first time expressed excitement about being able to share their stories to help others in similar situations as them, and focused their stories around things they wished others understood and things they thought should be dealt with differently by policy makers and service providers. Others who had previously participated in research studies that involved sharing their life stories, told stories that unfolded smoothly and in a chronological way, with minimal prompts or questions from the researcher. Women’s storytelling also varied depending on where they were at in their lives at the time of interview. Women who were using alcohol or drugs most heavily at the time of interview were most reluctant to share details of their life history, in
particular surrounding disclosures of trauma, their relationship with their children and future dreams or aspirations. These interviews were often the shortest, and ended once the researcher was unable to elicit any further information through follow-up questions, especially when the researcher felt further questions were making women uncomfortable. Similarly, women who had just recently completed treatment or recently quit using alcohol or drugs, shared that talking about previous negative experiences made them nervous, with one woman simply stating that she had “been hurt a lot”. The researcher did not probe these women for further details. Women who had been in recovery or women who had been practicing harm reduction for several years were the most forthcoming with details about their lives, and also shared that being able to talk about their experiences was helpful and even healing for them.

A few women did not disclose any trauma experiences in the first interview, but in the follow-up interview, they indicated they now felt comfortable to talk about previous experiences of abuse. In general, there was a greater sense of trust and comfort between the researcher and women during the second interview. Women were most emotional when discussing experiences of abuse, grief and loss, and losing custody of their children. They were reminded throughout the interview that they did not need to discuss any topic that made them uncomfortable. Humor was a big part of women’s stories as well as their interaction with the researcher, and was often used by women to diffuse emotions particularly during difficult stories.

Despite differences in the details of women’s life histories, there were commonalities among their major defining life events and experiences. When sharing their stories, all women described early life experiences involving abuse, violence and/or neglect. Similarly, they described their childhood communities as characterized by alcohol and drug use, violence and, often, sexual abuse. Their accounts reflected how these early experiences and being forced to take on adult responsibilities from a young age contributed to early exits from the school system and early initiation of a variety of high-risk behaviours, including drug and alcohol use as ways of coping with high levels of stress and a lack of stability in their lives. Women indicated that negative emotional environments often made it hard to focus on achieving their personal goals such as completing school, getting a ‘good’ job, getting married, buying a house, or ‘making my family proud’, to develop supportive coping strategies or healthy relationships. Women also discussed how their early adult lives continued to be defined by experiences of poverty and violence, often pointing to the cyclical impact of early life experiences. Some women focused on their pregnancy experiences as pivotal moments in their lives, as positive, negative or mixed.
However, for others pregnancy was described as just another thing they were dealing with in their lives at that time and, in these interviews, women only recounted details about their experiences during pregnancy when prompted to by the interviewer. Finally, although women faced multiple challenges throughout their lives, they also described a multitude of strategies they used to keep themselves and their families safe, active steps they were taking to support their healing and personal growth, and ways in which they “fight” these challenges on a day-to-day basis. At the time of the interview, many of the participants stated they were on “healing journeys,” and were focused on their hopes and aspirations for a brighter future for themselves and their families.

Several themes emerged in the analysis of the life histories, which will be further discussed below: intersectional identities; abuse, violence and neglect; intergenerational trauma; separations and connections; alcohol and drug-related experiences; and, pregnancy and mothering. These themes provide insights into the life histories, experiences and contexts of women’s experiences with both substance use and pregnancy and mothering. The names provided with women’s quotes are not their real names, but are pseudonyms chosen by the student’s mentor based on prominent and influential Aboriginal women in Canada’s names.

**Intersectional identities**

In recounting their life experiences, many women positioned themselves as being different from the mainstream ideas of what a person is supposed to be, often describing that they “don’t fit in” or “don’t belong anywhere”. When examining the participants’ explicit identity constructions, they mainly rested on what they were not, rather than affirmative statements related to who they were. However, implicitly, women constructed themselves at the intersection of a multitude of identities, often through the use of symbolic representations, that included: woman, Aboriginal, mother, partner, poor, provider, protector, and burden to their families or to society in general.

Women’s life stories and their identities reflected in these stories were constructed at the intersection of different social structures that shifted power dynamics in detrimental ways through sexisms, classisms, and racisms. Women often described themselves as being “overwhelmed” or “under pressure” in their efforts to navigate their multiple locations as partners, daughters, sisters and mothers, in addition to their imposed identities as foster kids, addicts, and beggars. While some women implicitly discussed how they “needed a man”, other
women explicitly discussed experiences of sexism, including being abused or treated less than other family members for “being a girl”:

My life with [my family] was a lot different than my brother’s and we lived in the same house. That's my grandma's perspective on things. That women don't make money. Women can't do anything. It's a woman's job to cook, clean and kiss your husband's ass and if you get smacked around it's your own fault. You gotta be quiet and come and take what you're given and do good. (Margo, mother of three in her early thirties)

While companionship and mutual support were also factors in many women’s relationships, they also often depended on men to keep them safe from violence, as well as to access and maintain resources like housing, food, money, alcohol and drugs. On account of their positions as substance using, poor, Aboriginal mothers, many women expressed frustration with being subject to constant intervention, scrutiny and surveillance from the state throughout the majority of their lives, and felt like they had no control over their own lives.

Women explained that meeting the demands of the Ministry of Child and Family Services, the legal system and social services throughout their lives as children, and now as mothers, often exacerbated or were in direct competition with the other demands in their daily lives, including dealing with their addiction. Traversing these multiple landscapes to maintain all the competing interests in their lives often made women feel “stressed out”, “hopeless”, and without “control” over their own, or the lives of their children. A new mother, Sally (27 years old), talked about the strength necessary to meet the multiple demands on her as a person, to comply with the Ministry’s demands to keep custody of her daughter, while balancing her relationship with her partner, whom she was ordered to cut-off communication with by the Ministry:

And I love my partner and I support him and I have faith that one day we can get through this but I am also angry because I have so much responsibilities and if I look for housing I'm scared they will take baby from me. And I'm also suffering from depression still so...Like some days I just want to sit there and cry and like I'm so tired and so stressed out, so frustrated and pissed off at the Ministry for what they are doing to us. Then there's (partner) texting me on the phone freaking out because they're not answering his phone calls and stuff and it's like so much like pressure on me.
These multiple demands in their lives were particularly difficult when considering that many women were also trying to deal with or heal from experiences of abuse, violence and neglect in their lives at the same time.

**Traumatic life experiences**

Traumatic life experiences, including abuse, violence and neglect, figured prominently in women’s stories, often beginning with their earliest childhood memories. Whether participants described their childhood as happy or hard and traumatic, the stories all progressed to describe life histories that were characterized by early experiences of abuse and/or violence, with the majority of women describing their childhoods as continuously and wholly traumatic. These early memories were positioned within environments of parental and familial substance use, alongside sexual and physical abuses in both their families and communities. Many women told life stories that were continually interrupted by abuse events, either by a single perpetrator over a long period of time, or by various perpetrators, and most women had multiple experiences of abuse including sexual, physical and emotional abuse and experiences of abandonment and neglect.

While women were very clear about how harmful these experiences of abuse were to their well-being, they also acknowledged in a matter of fact, albeit regretful tone that these experiences appeared to be commonplace in their surrounding families and communities. As Roxanne, a mother of two in her mid-thirties, explained, expecting abuse as a part of life seemed almost unavoidable, as even with changing circumstances and state intervention, violence and abuse often persisted:

> We were taken away was because my grandfather from my mother’s side had sexually abused (my sister) and myself... but I don’t remember it, but I do remember seeing it and...[I was] five. That’s why we were taken away. We ended up getting split apart... I ended up being in a foster home where I was sexually abused [by] the foster brother. [I was] 11 at that time... and they did nothing but take me out of the foster home. They didn’t believe me, which probably did the most damage than the actual abuse.

As reflected in this quote, for many, abuse was perpetrated by their family members, assigned caregivers, or close family friends. The harm of the abuse was compounded by not being believed or having their abuse ignored which was particularly devastating to women’s
sense of safety and trust. Certainly the idea that children make up stories about sexual abuse, a common colonial fallacy, appeared to be pervasive enough that when one woman, Joanne, spoke about her sister’s abuse, she justified its veracity by stating “she was ten...she wouldn't lie about that”.

For many women, when their experiences of abuse were discovered, they were removed from their homes and sent away, and many expressed feeling as if they were being punished for the abuse. This was especially true in situations where the abuse perpetrator was the mother’s partner, and the child was removed from the home because the mother either didn’t believe them, or continued her relationship with the perpetrator for various complex reasons, such as fear, abuse, and for food, housing and resources for herself and her children. In these cases, participants experienced a mix of emotions from disappointment to anger and expressed that they felt their mother had chosen her partner over them.

Additionally, in many women’s stories abuse, especially sexual abuse, was constructed as just part of growing up, and consequently, their childhood stories were dominated by constant feelings of fear and a need for vigilance. Women’s life stories belied just how deeply the residential school system had perpetuated a detrimental cycle of abuse in many of these women’s communities. For example, many women talked about how when their parents would throw parties or have friends over, a trusted adult was often left in charge of guarding the stairs to keep possible sex abusers from going upstairs into kids’ rooms. This type of awareness of sexual abuse’s pervasiveness in the community was especially apparent in stories where women would talk about reporting their sexual abuse to family members, and they would appear angry, but also complacent as the same thing had also happened to them:

_I told my mom and my sister. Obviously they were mad, just because that uncle had sexually abused my sister, (name), when she was down there. So, she kind of despised him. I can’t remember if they told the police and charged him or not. I’m not too sure. [I still see him] and it’s like a bad reminder._ (Joanne, mother of four in her mid-twenties)

In a few very extreme cases, women’s caregivers knew about the abuse, but did nothing to protect them, which women found particularly damaging. One woman, Cecile, a mother of three in her late twenties, recalled:
I remember times just crying and crying and begging [my mom] not to leave and not to get her brother that time... (name)... not to babysit and I was begging her and begging her, crying, screaming and she didn't care [...] I was screaming and crying, I didn't want to stay and I didn't want her to leave. She didn't care. Ya, and [my dad] found out too. And my mom didn't do anything... as I got a little older she got worse too, she said I deserved it, of course. The earliest I remember I was 3 and I was helpless. Like what could I do?

Cecile went on to discuss the impact emotional abuse had on her life, in particular her self-esteem and self-worth. The majority of the participants reported some degree of emotional abuse, and discussed how they would internalize what people would say to them at an early age, and how they continue to struggle with that as adults. Margo, a mother of three in her early thirties, who was living in a motel room at the time of interview, discussed how she felt her family actually pre-determined her life for her by attributing characteristics to her before she could even fully understand what they meant:

I’m told things that... you shouldn’t have to hear when you’re a kid. [My uncles] used to say stuff like... horrible stuff about... I was, like, a whore before I even knew what sex was. Just stupid shit like that. I’m just going to be a drunk and you’re going be just like... your mother... I didn’t drink at that time. It used to drive me nuts! I used to get in shit for stuff and being called... stuff that I didn’t really understand, so... I remember being, like... fuck you... you want to accuse me and saying all this stuff? I’m going to start. You’re going to see the difference [...] and ... oh, you’re out running around, being a whore and... like, what the hell is that about? Who talks to somebody like that? I was still like a little kid.

Many women grew up in families with many siblings, and in single-parent homes. As their parents were often dealing with providing for their family and/or their own addiction issues, many women felt neglected and abandoned during their childhoods, and talked about taking on adult responsibilities at very early ages. Most women discussed feeling like they never had a childhood, and gave examples of their incredible strength from an early age in order to care for and protect their younger siblings:
Every time we went to my mom's, her boyfriend would touch us ... he used to put my older sister in a room and put a padlock on the door and then he'd come into mine and my little sister's room. I'd always take my sister's place because I wanted to protect her because she was only three. (Sophie, mother of three)

When my mom... would leave us at the house for two weeks by ourselves and I'd have to clean, I'd have to get my brothers ready for school and everything, I had to be the mom pretty much. [It started when] I was uh 6. (Sally, new mother of one)

Finally, violence was described by women as a pervasive influence in their lives. This included domestic violence between parents or caregivers, fights and altercations between friends and, in some cases, a general environment where heinous acts of violence would occur. Several participants had family members (particularly women) who had been murdered. One woman discussed her family’s’ shame when a few of her cousins brutally kidnapped, raped and beat a prostitute. Another woman described her uncle being killed in a large gun fight, while seeking violent revenge against his sister’s (the participant’s mother) sexual abuser when she was ‘just a little girl’. These early experiences with violence often resulted in a repeating cycle of violence that continued into women’s adult lives, both as victims and perpetrators of violence themselves:

I ended up in jail. [My mom] just about lost her eye. I just snapped. I completely snapped when she pushed me and I attacked her and I couldn’t stop fighting her and I was saying, “How does it feel to cry for help?” That’s what they said I was saying. I just finished getting stabbed. I was stabbed down here in [town] on my arm right here... we were drinking there. That’s when I snapped and beat her up and I ended up in jail. I spent, like six months in jail for that. But ya, I freaked out. I guess, just let her know that... how it felt...To be fucking screaming. I remember, I used to always scream and tell her, “I love you, mommy, I love you. Please don’t hit me. I love you.” (Rose, mother of six in her late twenties)

Childhood and adolescent experiences of trauma continued to impact and interrupt women’s lives, and for many, experiences of violence and abuse continued to be repeated into adulthood with their partners and future relationships. Additionally, the resulting losses and
regret that women felt about missing out on the childhood they hoped for often permeated many of their stories. This was most apparent in their stories about their family’s history, where they often tried to make sense of their childhood experiences by understanding how intergenerational trauma had impacted their own lives.

**Intergenerational trauma**

Intergenerational trauma and a cyclical perpetuation of harm were evident in all women’s stories. Approximately two thirds of the participants had at least one parent who attended residential school, while four of the participants were unsure about their parents’ histories. Similarly, almost all of the participants had at least one extended family member who attended residential school, except for three participants who were unsure about their family’s history. This uncertainty about their own histories for some of the participants can be attributed to the impact of the colonization process through the removal of children from their families, and the concerted effort to erase Aboriginal peoples’ history. The intergenerational effects of trauma were evident in women’s stories about their family’s history of residential schooling, their parents’ experiences with abuse, violence and substance use, and the cycle of harm in their families and communities.

Uncertainty and avoidance were common themes in many women’s understandings of their family’s history. Four women expressed uncertainty about that part of their history, while Nana, a mother of four in her mid-twenties, expressed a desire to distance herself from her grandmother’s experiences with residential schools:

*No. I was too young. Grandparents don’t talk to their kids about residential school like that. It’s not proper. It’s not respectful. They just said, “Oh, your grandmother went to residential school.” I’m, like, “Oh, ya.” That’s their past, now mine.*

Family discomfort with discussing traumatic experiences or expressing feelings was something many women described as a downstream effect of their family members attending residential school. Many of the participants felt deeply sympathetic about their family’s experiences in residential schools. Jeanette, a mother of four, was particularly affected by her mother’s stories about her experiences and appeared to internalize the harm:
My mom said she used to get bothered by this Father [Catholic priest] all the time. Ya she told me that part. I started crying when she told me about it. I couldn't believe it. Like nobody would help, not the Sisters or nobody. The Father used to always keep her after school and touch her all the time and abuse her and stuff. I was just crying when she told me about it. It was sad. Really sad.

Even in cases of extreme abuse and neglect, many women revealed deep empathy for their family members’ experiences in residential school, and expressed feelings of forgiveness and understanding towards them, often struggling with reconciling their empathy for their parents’ trauma experiences with their own needs as children:

She told me a lot of horrible things that happened in the residential school. And, you know what? Like, I know I was hard on my mom and pushing my life on my mom. But you know what, I still tell her I love her and I still tell her, like... I understand what you went through...but, I'm [the] baby. (Barby, mother of one)

These interconnections between their parents’ experiences of abuse and their own subsequent traumatic experiences punctuated women’s stories. The intergenerational perpetuation of harm was poignantly evident when some of the participants discussed having been abused by the same person that abused their parents. Illustrating the devastating and complex impacts of intergenerational perpetuation of harms for women and their families, Josephine talked about having been abused by her grandfather, who was also abusing her mother at the time:

We were first taken away in Vancouver because my grandfather came to Vancouver and what did my mom do? She let him sleep in our room, so she was like giving her daughters to her dad. Isn't that disgusting? I remember a few things I saw but so many things I didn't know. I knew my grandfather raped my mom over and over again but I didn't know it was still a regular thing even as an adult. (Josephine, mother of two)

The intergenerational effects of trauma were most evident when women shared their family’s history of substance use. Alcohol and drug use was described as pervasive in the communities, even in cases where there was no substance use in the home. They understood
their family’s use of alcohol or drugs as a form of coping with past abuses and traumas in their lives, and many modeled their own behaviour after that of their family members:

My mom used alcohol and drugs. She was [abused too]. That's why she used to use and stuff. She used to numb herself. She did not want to feel anything and that is where I get that from. I don't like to feel anything either. Children live what they learn and all I seen was people coming in and out of my mom’s house and people like you know, they'd be using drugs in my mom's house and in the bathroom and having to go pee in the middle of the night and somebody is shooting up in your bathroom ... like that affected me.

(Sophie, mother of three in her early thirties)

Some women explained that they felt they were destined to repeat their parents’ lives. In particular, Kim, who was expecting her second child at the time of interview, stated, with a tone of regret, feeling fated to end up on the streets with addiction problems:

I'm a third generation... my mom, my grandma was down here, my mom is down here and I'm down here ... Well I kind of figured it out now because of the residential school right. I don't know, it just seems like it was... there was no way out of being... for me to be down here.

Others, however, were very much aware of the cycle of harm that they were a part of and were firmly committed to end the cycle:

Both [my] parents, like I said were in residential schools... how they got treated, they kept the cycle going. They hit us and they hit the other kids and it went from generation to generation to generation. My great grandmother got fed up with getting beat a lot, so she took her own life and that's how actually a lot of my family’s doing it. I would be violent towards myself way before I hit my kids. Like, that’s just it... that part of the cycle of my generation to generation to my people generations.... I would never lay a hand on my kids. (Francesca, expecting fourth child)
Another lasting impact of colonization and the residential school system in Canada, and the subsequent surveillance of Aboriginal mothers, is the overwhelmingly high rates of Aboriginal children who are placed in the foster care system.

**Separations and connections**

Throughout women’s life histories, childhood separations from families were frequent experiences for women and precipitated efforts to maintain connections with family. Separations from family involved experiences of state apprehension, being sent away to live with other family members and leaving home for various reasons. All but four of the participants had been apprehended from their biological parents, while all women were separated from their biological parents at one point in their lives. These apprehensions were often directly linked to the impact residential schooling had on their parents and reflected in their parenting:

> [How can I] blame somebody for something that they don’t even have the parts to do. Like, if you’re not taught something... what makes you think you are going to be able to do it properly? ....There’s a lot of skills that [my mom] doesn’t have. (Renee, mother of five)

Women described complex emotions about their separations from their families, including fear, anger, confusion and often sadness. Most of the time, the separations occurred after a traumatic experience, and many women spoke of the frustration that they were not able to resolve these experiences on account of being taken away. As Sarah, a mother of four in her mid-thirties explained, “It doesn't matter who you talk to like, you want to resolve with the people who did it to you right?” Additionally, the separations themselves were traumatic experiences for women because they were often not only leaving their caregivers, but also being separated from their other siblings and larger family network. One woman talked about how shocking it was later in life to meet her siblings because she had completely forgotten about them. Regardless of abuse or neglect experiences, the connection and bond between women and their families were unbreakable. Many women talked about how they spent much of their childhood and adolescence running away from foster care homes and group homes to go find their parents or families. They discussed their unconditional love, especially towards their mothers, as well as the need and desire for maintaining or creating connections:
I left [my adoptive home] when I was 15 because we moved to [city] and I knew my birth mother was down here [on the street] and I [came to] find her. So, I’ve been down here ever since. I took [my mom] a couple of times out of [that community]. Ya, I brought her to [shopping centre] to try on clothes and look around. It felt really nice, but now she’s not the same .... I wanted the motherly love. (Nana, mother of four)

When asked why they wanted to continue a relationship with their parents after harmful experiences, the majority of women responded similarly to Sophie, who in offering an explanation, also recognized how difficult this was to fully understand, “cause I love her and she’s all I got”, and Roxanne, “it doesn’t matter what a mother does to her child, she’ll still love [her]…I don’t understand it”. In all women’s life stories, their desire for familial connections persisted despite all separations, and regardless of previous traumas. Families (biological and adopted) were sought out for both practical and emotional support, and remained a constant presence and influence in their lives.

Separations from family, often through apprehensions by the state, and a lack of child welfare resources, further contributed to a life of chronic instability for most women, where they had difficulty forming strong attachments with any type of parent figure in their lives. As Sally, a new mother of one, recalled, “I bounced around from group home to foster home my whole life. I was in 20 different foster places and like I think it was like 15 different group homes.” This type of extreme mobility during the participants’ formative years often translated into a lack of connectedness, housing instability and homelessness as adults. In a cyclical pattern, this often led to further separations and apprehensions from their own children. At the time of interview, 11 women had stable housing and all but three participants had experienced homelessness.

Many women described stability in their lives as a major need or as something that contributed immensely to their healing journey, although they also described how difficult it was to obtain on account of their previous experiences:

I had no stability. I was everywhere. I was like gypsy. I hadn’t had stability when we were small. We didn’t have stability and then when I was in youth and care. I still had no stability. Then when I was out on my own I was bounced around like a gypsy because that’s all I knew. One year, I moved seven times! Because I was just so used to passing from home to home to home to home that I didn’t have that stability. (Sophie, mother of three)
A lack of stability was also stated to majorly contribute to and/or exacerbate substance use issues in women’s lives, while alcohol and drug-related experiences often also contributed to a lack of stability, further experiences of trauma, and a lack of access to resources in women’s lives.

**Alcohol and drug-related experiences**

Alcohol and drugs were a constant part of women’s lives from an early age. Many women talked about how they could not remember a time when alcohol and drug use was not around them. Others shared distinct memories of the first time they saw someone use alcohol or drugs and it was most often a family member. Women remembered feeling confused about what the person was doing, and could not understand at the time why they were acting differently. These initial observations prompted curiosity about the substances being used. Josephine, a mother of two, described her first memory of drug use in response to why she always felt fascinated with injection drugs in her adult life:

_Because I was just waiting for someone to meet that I could... try injecting. [I was curious about it ever since] my mom had OD’d and me and [sister] were about seven...just before we were taken away for good...we had to take a needle out of her arm and I guess she didn’t OD because she was still alive._

All women used alcohol and/or drugs at a young age and in most instances they first drank alcohol either at a party with their peers or around older family members. A few women first used drugs or alcohol when older family members gave it to them as a form of entertainment to see how they would react, as Rose, a mother of six described: “my aunties used to get me stoned from weed when they’d be babysitting me and they’d get me drunk too, to laugh at me when I was, like, 6, 7, 8.”

Women described their first and subsequent use of substances to be beneficial to them because it made them feel different; these different feelings ranged from feeling calmer, more social, focused, numb, without pain, as well as helping them to forget unpleasant memories. As women progressed to heavier use, they described a self-perpetuating cycle of increased harm, guilt and shame associated with substance use, followed by heavier substance use to cope with these experiences and feelings. Using substances as a coping method was particularly evident in many women’s stories of either the first time they progressed to using illicit drugs, or when their
drug use increased dramatically. For the majority of women, these experiences were preceded by some type of traumatic event, often around unresolved grief or a loss, having an abortion, the end of a relationship, becoming homeless, and particularly around losing their children. As Mary, a mother of three explained, “The day that my son was taken [by the state] was the day that I tried [crack cocaine]… ya, I was hooked.”

**Pregnancy and mothering experiences**

Pregnancy and mothering experiences represented the most emotionally charged parts of women’s life histories, often involving profound experiences of sadness, joy or a complex mix of these emotions. For many, experiences with pregnancy and mothering were defining moments in their lives. All women expressed feeling differently about themselves once they became mothers, with most describing a feeling of pride or self-worth for having brought a child into the world. However, despite these commonalities, there was a range of pregnancy and mothering experiences among the participants.

Pregnancy was constructed as co-occurring with very difficult life circumstances by most women. Many women were deep into their addiction, living on the streets, and/or dealing with complex and often abusive relationships with their partners. Dealing with pregnancy often exacerbated these circumstances, and in some cases actually interfered with women’s livelihoods as they were unable to continue with their means of making a living (e.g., survival sex, dealing drugs). Many of the participants expressed feeling scared and unprepared when they first found out they were pregnant:

*I was so angry. Because like I couldn't even take care of myself. You know, I had my childhood stolen away. I wasn't able to be a kid, and then when I found out I was pregnant, I just wanted to kill somebody because I knew I wouldn't be a good parent. I wasn't in a good place in my life to have the baby cause the guy I was with was always beating me up and he tried killing me a couple of times.... It was either he was going to end up killing me or kill my baby. And what if I couldn't take care of it? What if I did not have enough money to feed it you know? Like I was worried about all those things because I was already struggling. I was barely making it. (Sophie, mother of three)*

Some women chose to have an abortion, often citing that they knew they could not deal with the pregnancy or reduce their substance use. For some women, this also resulted in higher
substance use to deal with the trauma of terminating their pregnancy. Conversely, several women indicated that they were planning to get an abortion, but either their family members convinced them or shamed them into changing their minds, or that they could not go through with it once they arrived for the procedure.

Other women spoke of feeling excited and happy when they found out they were pregnant, especially those who explained that they had always loved children and wanted to be a mother. The majority of participants either reduced or quit their substance use during pregnancy, and all women expressed a desire to quit during pregnancy, while also often justifying any continued use with statements about how hard it is to quit completely. These statements were implicit of a multitude of complex feelings women had around the stigma and judgment they experienced, as well as their own feelings of guilt:

No [I didn’t use] because as soon as I found out I was pregnant, I went back to the reserve because I knew that would be a safe place for me. [On reserve there was no] access to drugs [but here] it’s everywhere. It’s hard. The second pregnancy [too], I just… ya, I went back [to my reserve] as soon as I found out. I went home. Except for the last pregnancy, I just… I don’t know. I did try to go back to the reserve, but my boyfriend wouldn’t let me. He wanted me to stay down here with him and didn’t want me to go back to the reserve, so I think that’s the biggest reason why… like, I mean, I asked him… why would you rather me stay down here and, like, keep using drugs than go home and get clean? (Winifred, mother of two in her early thirties)

Most women were able to either completely quit using all substances, or to reduce use dramatically while they were pregnant, with all women emphasizing that they wanted to do their best to protect their unborn child. Women had their own harm reduction strategies, such as smoking cigarettes or weed as a means to reduce or quit using other more harmful drugs. Similarly, many women credited their child(ren) with saving their lives and helping them heal:

No I don’t think I would [have been] able to quit [without my daughter] because she is just a change I needed to make myself a better person I guess. [When] me [and] her dad talk about it, we say that she’s our little guardian angel, she is an angel sent from heaven cause she’s the one that made us want to be a better person. (Sally, new mother of one)
Women were adamant that being able to parent their children, even in some cases, through visitations with their children who had been apprehended, was a key requirement to their happiness and wellness. Women who had lost their children thought that if they had been given more opportunities to be around their children, it would have helped in their recovery. For those who had their children apprehended directly after birth in the hospital, there were expressions of regret and feelings of loss that they associated with not feeling appropriately connected to their kids. One participant, who had custody of her youngest two children, and had been in recovery from substance use for over three years, spoke very eloquently about the issue of child apprehensions and its influence on mothering and substance use recovery:

[Mothers] need to build that bond with their babies. If the Ministry could just let the parent be with their baby and build that bond, nothing will ever break that bond if they just build [it].... They’ll do anything for their kid to the point where staying clean and sober to be able to keep their baby. Number one is that bond that needs to be built. When the Ministry comes in and apprehends the baby and says, “Well, you get a couple of visits a week” there’s no fucking way they’re going to get to build that bond. And when you don’t have that bond, that kid’s basically someone else’s kid .... It’s that bond that needs to be built in order for a parent to succeed in mothering and parenting their children. [Let us] parent our children and give us that chance and not just use everything that we have been through and done against us. Because once you have a baby in your life and you actually get to parent and to love somebody, it’s just a whole new world. It’s a whole new you. And you would do anything to keep them. (Rose, mother of six)

As in other experiences in their lives, women’s narrative reflected great strength and perseverance in their efforts to keep their children, trying to get custody of their children or in trying to maintain a relationship with their children, all while under constant surveillance. Stories about mothering and their children were often highlighted by women as a great source of happiness and pride in their lives, in spite of the difficulties they were facing. They also often discussed how being a mother gave them hope for the future. Even for women who had not had contact with their children for extended periods of time, stories about their children and their hopes for their future dominated their life stories.
Contextualizing the findings

Despite their overwhelming histories of abuse and hardships, the participants also had happy memories in their lives, as well as hopes and dreams for their futures and their children’s futures. When asked about what their childhood hopes were for their future, the participants answered with a variety of hopes and dreams: a mom; a hair dresser; a culinary artist; a member of the armed forces; a cop; a nurse; a soccer player; a youth worker; a photographer; a writer; and, a singer. Many women discussed how they still hoped to achieve these goals to set an example of strength and commitment for their children.

Similarly, many women shared happy childhood memories that centered on feelings of safety and love. These memories revolved around time spent with family, with most women singling out times when they had large family gatherings or reunions, family vacations, or family picnics as their happiest memories. A few women also referenced their time spent at school and with friends as their fondest memories, while one woman specifically remembered when her mom would help her get ready for school and fix her hair.

Although their childhoods were incredibly difficult, as adults, all women spoke of their future hopes, dreams and aspirations. Throughout women’s life histories, stories of incredible strength continuously emerged. Despite having experienced atrocious traumas and harms, women had not only survived, but many of them were continuing to thrive. Six women currently had custody of at least one of their children, eight women were in recovery from their substance use, and several women had not used any substances in upwards of five years, while others were fighting for their sobriety on a daily basis:

And that's when I just stopped. I got to think, there is a life and all the dark and seeing all the dark, there is still light. And that's what I'm fighting for is the light. I could've gave up on myself a long time ago. Tell you the truth I never cared about myself and I still don’t. My kids changed [things]... that's why I survived day by day is my kids. Nothing else, nothing more. If I didn't have kids I would have been long gone. Long gone still drinking. (Francesca, expecting her fourth child)

All women were consistently resourceful throughout their lives, using strategies to keep themselves and their families’ safe, supporting others, and constantly and repeatedly striving to better their lives. Several women had pursued higher education, and many women had hopes to
help others through their experiences. Women demonstrated persistent strength to deal with the multiple and repeated challenges and set-backs in their lives in order to regain custody of their children, reduce risk taking behaviours and/or substance use, cultivate positive and supportive relationships, maintain gainful employment and secure safe housing. And, despite their often difficult pasts, all women showed an incredible capacity for love, and shared their hopes for their own future and that of their children:

I want to live like everybody else. I want a life like everybody else. A good life you know. I don't want to struggle and I don't want to be put down and I want to be loved and I want a nice home and I want my kids to you know, get the best education possible and I want good for them. I want them to become something you know? (Sophie, mother of three)

Women ended their life histories with optimistic thoughts about their own future and that of their children and families, and hopes for living a healthy and long life full of love.
Chapter 6 Mapping the Social Determinants of Substance Use during Pregnancy among Young Aboriginal Women

This chapter reports on the findings derived from the analysis of the data collected during the CIRCLES mapping exercise conducted as part of the qualitative study to address part of the second objective of this research project. Findings are reported to describe the perspectives of pregnant-involved young Aboriginal women on the intersections of the social determinants of substance use in their lives. The research questions and hypotheses guiding this study as well as the details on the methods and analysis used for this study can be found in Chapter 3.

Findings

When analysing the data, three interrelated components were taken into consideration: firstly, women’s approaches to mapping; secondly, the determinants of substance use during pregnancy as identified by women during the mapping exercise; and, thirdly, women’s perspectives on the intersections of these determinants. In describing women’s maps, single quotation marks will be used to indicate the names of the buttons women used on their maps, and double quotation marks will be used to indicate women’s comments and explanations during the activity.

The official list of social determinants of health by Health Canada (including income and social status; social support networks; education; employment/working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; gender; and culture) (Mikkonen & Raphael, 2010), as well as those added determinants in the ILCSD Model (including colonialism, racism and social exclusion and cultural continuity) (Reading & Wien, 2009) informed this overall study. However, instead of reporting strictly on these social determinants of substance use, in an effort to understand how woman construct the determinants in their lives, the findings also include women’s discussions of determinants impacted on their emotions and feelings. Conceptually, these emotions and feelings were often described as mediating the pathway between determinants and their experiences of substance use. As such, many of the mapped buttons contain words related to emotions or feelings, but the broader discussion by women indicates that these are conceptualized as the consequences of or in relation to other social determinants in their lives.
Appropes to mapping

When initiating the mapping exercise, women had different approaches to the activity. While some were immediately engaged and excited about creating their maps, others were hesitant and at times, self-conscious, about beginning the mapping process. Those that were unsure would ask questions like “where do I start?”, “now what?” or “is this right?” or “where should I put this?” as they placed items on their maps. In addition, some of the participants expressed frustration or embarrassment as they first began their maps, making comments like “I don’t know if I get this,” or asking for the researcher to explain what each of the circles represented again, and to give examples of what might go in each section. After reiterating the overall purpose of the mapping exercise and assuring women that their feedback on this new mapping activity was very helpful, even those who were initially reluctant eventually engaged in the process and completed a map.

Women conceptualized and operationalized the mapping process in diverse ways. Their resulting maps were grouped into five types: the roadmap (one map); the snapshot (two maps); the introspect (three maps); the nested (five maps); and, the temporal (six maps). A description of each of these approaches will be presented.

One woman used the mapping activity to show a roadmap starting from the point in her life when she was last happy, beginning in the centre of her map (Figure 12). For her, this was around seven years prior to her interview, when, using buttons she described that she was able to ‘stand for responsibility’, had a positive ‘partner’s influence’, had a steady ‘job’ and was attending ‘college’. She then mapped from there, moving back in time through the difficulties she had experienced in the past. As she spiraled out from the centre of her map into the surrounding circles, she used buttons such as ‘fell back’ to using drugs to deal with her ‘PTSD’ and childhood ‘memories’ (where she was at the time of interview), and ended the timeline by placing buttons representing what she wanted for her future on the outer circle. Here she placed the button ‘healing’ and to represent her wish to ultimately to leave old habits behind, and to be reconnected ‘to my little girl’, ‘my little family’ and to spend Christmas at home with them (‘A Xmas home’). Of note, after completing her map, the woman was being picked up by her family to return home and begin her healing process to reach the goals she laid out on her circle map. Clearly in this example, the woman did not treat the circles as proximal, intermediate and distal, as defined by the researcher, but instead created a roadmap that made the most sense to her at the time of interview. She constructed the social determinants on her map not as having a
cumulative impact on her life, but in relation to how they impacted her life at different time points on her road map. In this way, she constructed her map from a very individualized perspective where the focus was on her personal path towards wellness, and the determinants of substance use were either in her way, or helping her towards her goals.

![Roadmap Mapping Approach](image)

*Figure 12. An example of the roadmap mapping approach.*

Grey buttons were drawn from the participant’s life history interview, blue buttons were drawn from other participants’ life history interviews, and pink buttons were generated by the participant during the mapping activity.

The snapshot approach was used by two women and focused on where the woman was at during the exact moment of the interview. While some other factors were included in the maps from across the life course (like abuse experiences and supports for healing), the majority of the map was constructed using the buttons to represent factors that were directly influencing their immediate circumstances. As shown in the example in Figure 13, this woman’s map was constructed with her current feelings in the outer circle using buttons such as being ‘really busy’, ‘frustrated’, ‘tired’, and ‘stressed out’. As she mapped these emotions, she discussed how the multiple demands from Vancouver Aboriginal Child and Family Services Society (‘VACFASS’)}
and her ‘shelter’ chores were the root of these emotions, in an effort to represent the context of her day-to-day life at the time of interview and the way interacting with public systems and services impacted her mental health. Similarly, the middle circle she placed buttons that mostly represented systems of supports (‘food’, ‘school’, ‘therapy’) and coping skills (using buttons such as ‘journaling’ and ‘therapy’) which she was currently accessing or using in her day-to-day life. The inner circle was comprised of things she felt were most immediately impacting her daily life at the time of interview, including dealing with the passing of a loved one, and feeling ‘too much pressure’, ‘anger’ and ‘responsibility’ on account of the current demands in her life. These feelings were all attributed as being downstream impacts of life-long lack of resources, stability and control over her life. Both women who created this type of map had a child who was under one year old at the time of interview, and so perhaps it was not surprising that their current experiences dominated their mapping process.

![Map](image)

**Figure 13.** An example of the snapshot mapping approach.

[Grey buttons were drawn from the participant’s own life history interview, blue buttons were drawn from other participants’ life history interviews, and pink buttons were generated during the mapping activity.]

The introspect mapping approach was used by three women and depicted most of the influences in women’s lives as being individually situated and mediated (see example in Figure...
14). While the three women who completed their maps in this way acknowledged some outside impacts on their lives (as shown in the outer circle of one woman’s map with buttons such as ‘trauma’ and ‘foster care’), they internalized and took responsibility for many of the influences in their lives. These women firmly believed that while the items in the outer and middle circles had an influence, the source of their issues and healing were within their own control and responsibility. As one woman placed buttons in the inner circle, as shown in the example, she explained that she thought many of her emotions (represented with buttons that included ‘feeling rejected’, ‘anxiety’ and ‘guilt’) originated from within herself, rather than as a result of outside influences. In the inner circle she also identified things she personally had to deal with (e.g., using buttons ‘talk about feelings’, ‘commitment issues’) in order to solve her negative emotions to support her wellness. In this way, she constructed the influence of social determinants in her life as peripheral and instead placed the onus on herself to support her own wellness. However, as she explained the placement of the buttons ‘keeping to herself’ and ‘trust’ she indicated that these issues were downstream impacts of her unstable childhood, and frequent moves due to resource issues. She went on to explain that while this behaviour helped her as a coping strategy, she needed to start asking for help from others and accessing resources available to her in her community, as she placed buttons such as ‘my band’ in the middle circle, in order to continue on her healing journey.
Figure 14. An example of the introspect mapping approach.

[Grey buttons were drawn from the participant’s own life history interview, blue buttons were drawn from other participants’ life history interviews, and pink buttons were generated during the mapping activity.]

The nested maps created by five women were most similar to the ILCSD Model in that they represented the influences in women’s lives as nested relationships, where distal determinants impact intermediate determinants, and they both impact proximal determinants. In the example map shown in Figure 15, the woman used the buttons to illustrate how various influences were evident across her life course at the distal (e.g., ‘family history’, ‘violence’ and ‘having enough to eat’), intermediate (e.g., ‘coping’ and ‘money’) and proximal levels (e.g.,
‘having a higher power’ and ‘smudging’).

![Figure 15. An example of the nested mapping approach.](image)

Grey buttons were drawn from the participant’s own life history interview, blue buttons were drawn from other participants’ life history interviews, and pink buttons were generated during the mapping activity.

Finally, in the five maps reflecting a ‘temporal’ approach to the task, women used the outer circle to depict things that either happened in the past, that were not part of their current lives, or that they no longer wanted to have in their lives. In the middle circle, they placed buttons that related to services, policies, people, or personal characteristics in their lives that either supported or hindered them, or that they were in need of, in their roles as mothers. The inner circle items was reserved for buttons that represented very individual-level factors that they currently had or were dealing with, or that they wanted or needed in their lives, including people, emotions, support people and motivators for leading a personally healthful life. An example of this approach to mapping is shown in Figure 16. The main difference for these maps in terms of
the middle and inner circle was that middle circle items were seen as being outside of personal control, and as such this is where women placed buttons that represented ‘housing’ issues, the health system (‘methadone’). The inner circle was reserved for buttons that reflected things that they themselves could modify or access (e.g., buttons such as ‘money’ or ‘culture’) to counter or buffer the impacts from other social determinants in their lives that they could not change (represented with buttons such as ‘racism’ or ‘residential schools’).

Figure 16. An example of the temporal mapping approach.
[Grey buttons were drawn from the participant’s own life history interview, blue buttons were drawn from other participants’ life history interviews, and pink buttons were generated during the mapping activity.]

In all cases, all of the maps were created with positivity and hopefulness. As they mapped, women highlighted either the positives currently in their lives that they wanted to build on further, or that they hoped to have in their future moving forward to support their own and their family’s wellness and holistic health.
The determinants of substance use during pregnancy

As women created their maps, they identified and discussed determinants of substance use during pregnancy from the perspective of how they either contributed to or detracted from their overall wellness. The determinants used by women in their maps, including the determinants drawn from the life history interviews and the determinants generated within the mapping exercise, were grouped into ten themes: traumatic life histories; socioeconomic status; culture, identity and spirituality; shame and guilt; mental health; family connections; romantic & platonic relationships; strength and hope; mothering; and, resources, supports and barriers (Table 11).

Traumatic life histories.

All women used the buttons ‘trauma,’ ‘abuse’, and/or ‘violence’ to represent major detractors to their overall wellness, and this was reflected in the way that they mapped these buttons and their comments as they explained their maps. For many women, these terms were not specific enough and they often used multiple and specific buttons, such as ‘parents,’ ‘drug and alcohol use’, ‘tough love’, ‘sexual abuse’, ‘physical abuse’, ‘emotional abuse’ etc. to detail their traumatic life histories on their maps. Each button reflecting traumatic experiences was understood as having a cumulative impact on their trauma histories and contributing to their use of substances later in life. Through the mapping activity, women found it important to talk about the different kinds of trauma in their lives separately to give due diligence to these experiences. As shown in Table 11, they often used several words related to this theme to discuss the impact of separate traumatic events in their lives. In particular, women repeatedly explained that all of their traumatic experiences were interconnected and interrelated and that they had a compounding impact on their use of substances to cope with these experiences. Contradictorily, using substances as a coping mechanism often led to further traumatic experiences and these repeated and continued experiences throughout their lives had devastating impacts on their sense of safety, hope and self-worth. When women looked at their final maps, they most often expressed a sense of surprise at seeing the multiple types of trauma they had survived and they saw these experiences as having the largest impact on substance use in their lives.

When mapping different traumatic experiences in their lives, women talked about how they felt about losing their childhood and how these feelings contributed substantially to their use of substances later in life. In the words of one woman, whose childhood was characterized by experiences of sexual and physical abuse and neglect, “I grew up so fast, I’ve never thought of myself as a kid”. Experiences of trauma followed women into their adult lives with women
characterizing their lives as continuously lacking ‘safety’ and being surrounded by ‘violence’. Although women normalized these traumatic events in their lives, they also recognized during the mapping exercise that these experiences damaged their sense of self-worth, and that substance use and trauma had a cyclical relationship in their lives. When looking at their maps and discussing the relationship between various buttons, several women discussed how their map visually depicted how increased substance use, and the circumstances involved with intoxication, use, and obtaining money or alcohol or drugs (i.e. dealing drugs, doing survival sex work) contributed to increased experiences of violence, which subsequently and cyclically contributed to increased substance use.

In the maps, women clearly reflected their belief that their parents’ and family’s own histories of abuse experiences and substance use drastically influenced their lives, through the intergenerational perpetuation of harm. Not surprisingly the focus on mapping traumatic life experiences led to discussions about how feeling safe was a main contributor to women’s wellness. For those women who described their current environments as safe, they highlighted that they were drug-free, stable and violence-free. During the mapping process, issues related to traumatic life experiences were mostly mapped as distal determinants.
<table>
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<th>Words Generated within CIRCLES Activity</th>
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<td>Money; Moving Around; School; Private School; Public School</td>
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<td>Identity; Isolated; Protecting; Catholic Service; Faith; Having a Higher Power; Spirituality; Smudging; Belonging</td>
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<td>Shame &amp; Stigma</td>
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<td>Bullying; Not Good Enough; Self-Esteem</td>
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<td>Anger; Anxiety; Denial; Stress; Tired; Really Busy; Too Much Pressure; Numb the Pain; Feeling Numb; Frustrated; Recklessness; Eating Disorder; Nightmares; Shy; Commitment Issues</td>
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<tr>
<td>Romantic &amp; Platonic Relationships</td>
<td>New Friends; Friends’ Support; Partner; Partner’s Drug Use; Partner’s Support; Boyfriend; Partner’s Influence</td>
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<tr>
<td>Strength, Healing &amp; Hope</td>
<td>Harm Reduction; Hope; Inner Strength; Sharing your Story; Healing; Future Dreams; Feeling taken care of; Forgiveness; Trust; Independence; Desire to Change; Stop the Cycle; Survival; Safety-Now; Pride &amp; Dignity; Job; Empowered; Helping Others; Love</td>
<td>Self-Awareness; Sharing my Story; Harm Reduction; Helping Others; Feeling Appreciated; Forgive; Journaling; Trust; Growth; Stop the Cycle; Awareness; Fight; Asking for Help; Survivor, Responsibility</td>
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<tr>
<td>Mothering</td>
<td>Being a Mom; Bond with Baby; Having a Baby; Kids; Losing Kids; Getting Kids Back; Ministry of Children</td>
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<tr>
<td>Resources, Supports &amp; Barriers</td>
<td>Barriers; ER Doctor; Supports; Treatment ; Wellness Centre; Shelters; Sheway; Social Workers; Prenatal Classes; My Band; Healthiest Babies; Fir Square; Cedar Project; Community Support; Methadone; Needle Exchange; Resources</td>
<td>Hospitalized; Police; Therapy; Baby’s New Beginnings; First Steps</td>
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</table>
**Socioeconomic status.**

While mapping, women discussed how low socioeconomic status exacerbated or contributed to other negative experiences in their lives. They identified money, education, housing and food as important components of their wellness. As resource-based issues had consistently influenced women’s life experiences, women placed buttons naming these influences in various areas on their maps. However, when talking about the ‘poverty’ button and its placement, many women saw it as the source of (and therefore distal determinant of) many of their subsequent life experiences, particularly in relation to their substance use:

_Poverty....I was poor all of my life, probably the reason I went to jail and money, right._

_Well when I was younger I didn’t want to do any drugs or alcohol.... Cause I don't know, I was asked to, right. It was kind of pushed on to me._ (Kim, mother of four in her early thirties)

Gaining access to and control over basic resources to support themselves and their families was a constant driver in women’s lives and was something they stressed was necessary to their wellness at every life stage. During the mapping activity, one mother of three discussed how not having enough to eat, or a place to stay or any money, would often lead her to participate in illegal activities, such as stealing to support herself and her family. Ten women discussed survival sex work in particular as having a detrimental impact on their lives, especially in terms of increased substance use and increased violent experiences, but also that it was the only way they could provide for themselves and/or their families. All women discussed the role money played in their overall wellness throughout their lives while creating their maps:

_Money should be here, here and here! [Pointing at each of the three circles on the map] (laughs) Ya cause I was always trying to get money, always. If not for me and my sisters, [then for] my mom, then for the drugs and alcohol or then when I had my kids and was sobered up, I was still trying to get money and feed my kids and clothe their backs, making sure they....Ya [it goes] everywhere. It is [a big thing]. Ya we struggled all our lives, we struggled._ (Sophie, mother of three in her early thirties)
As women mapped the button ‘money’, they identified income assistance, child credits, and/or disability payments from the government as financial supports. However, many women explained that they had to supplement these resources through support from family, partners or friends, local programs, food vouchers, shelters and temporary housing, survival sex work, dealing drugs, and theft. Some women also relied on participating in surveys and research studies such as this one to supplement their income, while others had paid work. The ‘money’ button also prompted women to describe remarkable budgeting skills and resourcefulness in obtaining what they and their families needed, although for many of them, securing these resources dominated the large majority of their time, while also, in some cases, compromising their own health and wellness. A high priority for many women was getting a ‘job’ (usually mapped as a proximal determinant) as a source of both income and ‘pride’, and to secure economic stability for themselves and their families and to prevent apprehension of their children.

Having access to safe and stable ‘housing’ was also stressed as a major contributor to their wellness as women completed the maps. As one woman, Nana, a mother of four in her late twenties, who was homeless at the time of interview, explained:

*It’s kind of hard [to quit using] when you live down here. Because being homeless and down here… it’s not that easy…. Having our own place [is the first step]. Cause right now my main focus is not to lose our belongings.*

Another participant who was also homeless at the time of interview echoed these sentiments, saying that housing would make it “easier to do a lot of things”, especially in terms of keeping or regaining custody of their children. A lot of women associated housing with a sense of stability. Women explained that their childhoods were often characterized by instability and that regaining a sense of stability by having a place to live was as Sarah, a mother of four who had quit alcohol and drugs eight years ago, simply stated: “a big one”.

Food insecurity since childhood was a particular focus during the mapping exercise for eight women. As she completed her map, one woman reflected on her childhood, remembering how she and her family “often went hungry”, while another woman laughed as she recounted that she has spent most of her life trying to figure out how to have enough to eat. Other women discussed strategies they had learned to provide food for themselves and their families on limited
budgets, including buying in bulk and freezing smaller portions to help their food budget go further.

Dealing with these various resource-based issues from a young age also interfered with women’s education, a topic that was discussed by several women during the mapping exercise. While attending college or technical school was stressed as one of the happiest experiences in three women’s lives, most expressed regret that they had not completed their education. The ‘school’ button was most often placed on the middle circle maps, either as previous, current or future support for women’s wellness as well as to inspire their children.

School environments were not only important determinants of school completion, but were also related to how women understood their opportunities. Roxanne, a mother of two, used buttons with the terms ‘private school’ and ‘public school’ on her map. She discussed how attending private school, even for a short time, at the insistence of one of her foster mothers, left a lasting impression on her:

*It was different and... I mean... I'm so thankful and lucky that I was given that opportunity...To see that 'cause a lot of the people down here, they don't know anything other than this. They grew up in... well, I grew up in poverty too but I was given a chance to see there's more to life than [...] welfare.*

However, she later went on to say that being placed in a community so different from her own growing up, also led to feelings of disconnection:

*And I was living in a totally different community than what I was used to. I grew up on welfare with our mother and then I was growing up in this [affluent] community... normal, loving parents and normal people around me and I felt like such an outcast and I ended up drinking. Anyways, I got kicked out of that school.*

**Culture, identity and spirituality.**

Many women used the ‘culture’ button on their maps to reflect an important determinant to their wellness. Mapping this button, however, prompted discussion that indicated the impact of culture was complicated. Most women expressed regret that traditional teachings and cultural activities had not been a bigger part of their lives growing up, and that they could not pass these teachings on to their children. Margo, a mother of three in her early thirties, agreed that early
exposure to her culture would have been helpful, as she considered the impact of introducing culture into her life as an adult:

*I would have to have learned that [culture] from my family and that would have made a difference. Then it wouldn’t be kind of so intimidating and would mean more because it had started at home, kind of thing. But to now… at this point in my life to say…oh ya, I need culture first... it’s kind of like... not very important.*

For others, however, the positive impact of participating in cultural activities was clear, with one woman talking about how participating in cultural activities, like berry picking, always resulted in her getting “*clean off of like anything [drugs & alcohol].*”

Women associated culture with spirituality. Many mapped spirituality-related buttons as a distal determinant, including learning about and from their culture, participating in traditional healing ceremonies like sweats and ‘smudging’, and ‘faith’ or ‘belief in a higher power’ or God. For those women who acknowledged their belief in God, they shared that they found faith-based programs like Narcotics Anonymous and Alcoholics Anonymous particularly supportive. For other women, traditional healing practices were stressed as important to their spiritual wellness, as well as to their overall health. Even for women who had had limited exposure to their own culture and traditions, there was a desire to learn more, as explained by Nana, a mother of four in her late twenties: “*[I want] culture for my future. [For] healing, like sweats and smudging…. I’ve gone once actually. I was really young though. Ya [that would help me]*)”. Women who recounted that culture had played a large part in their lives explained during the mapping exercise that traditional healing practices were essential to supporting their own and their family’s wellness:

*[I want to teach my kids] about smudging and stuff definitely ’cause it helps. Um, so ya... this is really personal to me, so...because it does help me. To me it works so much... you know... and I just believe... ya... I’m being heard.* (Cecile, mother of three in her late twenties)

Still, as women reflected on how to map buttons that related to culture and spirituality, the discussion often turned to racism and identity. Roxanne simply stated “I was always ashamed of being Native”, reflecting the complex internalization of popular, and negative, representations of
Aboriginal peoples in Canada. One woman stated that while there was never any racism directed at her, she was always aware that she was “Native” and with all the “Caucasian, white people” around her, she “always felt less than them”. For others, experiences of racism were more blatant, and these women expressed feeling angry, for example, when they were followed around in retail stores. Kim, who was expecting her second child at the time of the interview, recalled how constant teasing of herself and her brother impacted them growing up:

*There were girls in my class that would tease my little brother about his long hair, making comments like "dirty Indian and all that", so I had a lot of fights to protect him. It made me feel bad about myself and it got to the point for my little brother where he wanted to kill himself.*

In reflections about identity as women created their maps, many discussed how knowing where they came from at an early age, would have supported their wellness. In the absence of these early cultural connections, they struggled with issues of identity which detrimentally impacted their health. Sarah, a mother of four who was completing her college education at the time of the interview, discussed how issues of identity impacted her substance use, and how learning about where she came from helped her to start the healing process:

*I struggled with like who I was, my identity because I was bounced around so much… my identity was a big one for me. That's what affected like everything probably in this here (middle and inner circle). I just couldn't figure out where I belong so I just drank because I didn’t really care about too much. And that had to do with like residential [school] so... the more I learnt about it and the more I go to like, with all the workshops they have going on, and hearing everybody's stories and just knowing...has helped.*

Many women attributed lacking a sense of belonging and trying to fit in to their first experiences with alcohol or drugs. As such, although substance use had some component of peer pressure, women positioned early use as a search for approval or acceptance.

**Shame and guilt.**

While creating their maps, many women tried to make sense of their feelings of guilt and shame as they situated the buttons with these words on their maps, and to understand how these
feelings were related to social determinants in their lives. While creating her map, Roxanne, who was trying to understand why she had not yet quit using drugs, contemplated the role of shame in her life:

*I'm ashamed that I'm not doing it on my own and I'm just saying this out loud 'cause I wanna know... is this why... I mean there are people there for me. Like in my building there's... I wanna move out of there, I have no business being there. And why don't I go and see [the support worker]? Being embarrassed that I can't do it on my own I guess. Trying to do it all on my own and I can't and the longer I keep thinking that way the longer I'm going to still stay focusing where I'm at.*

As other women mapped words related to shame and guilt, they discussed how being able to reach out and ask for help would be a first important step towards their healing, but that feelings of inadequacy and being a burden on others often prevented them from doing so. Low self-esteem, closely related to feelings of ‘shame’ and ‘guilt’ for many women, was seen as compounding the impact of these feelings on their emotional wellness. Women discussed how these feelings resulted from internalizing other peoples’ cruel words or actions towards them, and how actively working to reverse these internalizations was an important support for their wellness. Women’s inner strength was consistently apparent in these discussions as they explained the multiple coping strategies they employed to deal with these feelings on a daily basis including avoiding new or different environments as a protection mechanism, journaling and therapy, substance use treatment, talking about their feelings and sharing their story with others. Sarah discussed how her own resiliency and ability to move forward and cope with past experiences gave her the strength to support the emotional health of her own four children:

*Being able to deal with all the trauma that I've gone through and yeah, my whole entire life. That's what helps me with parenting too... I'm so open with my kids. We talk about everything and I always just like lay it on the table, 'don't hide anything you know’. I want to have open communication with my kids. And you know I didn't have that.... everybody wanted to be so secretive. That's all they learned in residential [school]. Nobody was open about anything. With my kids I'm just like we'll deal with it. Nothing bad is going to come out of it, only good.*
Mental health.

All women discussed the importance of their mental wellness to supporting their roles as mothers and their health and the majority of women placed buttons representing mental health-related determinants (e.g., ‘stress’, ‘fear’, ‘grief’) in the middle circle to demonstrate supporters and detractors of their mental health. As women placed the button ‘stress’ on their maps, they discussed a variety of sources in their lives ranging from stress related to juggling their multiple roles, to dealing with their daily needs like securing somewhere to sleep, food to eat and supporting their partners, dealing with state intervention, and dealing with their addiction. Women also used buttons like ‘fear’, ‘confusion’, ‘pressure’ and ‘anger’ to represent feelings that detracted from their mental wellness. For many women, ‘grief’ and ‘loss of a loved one’ characterized much of their lives, and as they mapped these buttons they discussed how failing to deal with these issues had serious, negative repercussions for their mental wellness, their substance use and their overall health.

All women described their drug and alcohol use as way to “numb the pain” and loss in their lives. After having numbed or blocked out pain for many years, regaining sobriety, women explained, also meant coming face-to-face with memories or experiences that they “were in denial” about. However, many women stressed that this coming to terms with what they had experienced and survived was an essential, albeit difficult, step of achieving mental wellness:

*It's good. I’m still working on it you know what I mean? Ya, I'm striving for something. I want something good and it's just stressful because it's hard to get. Ya. Cause like, [now] I feel it [all]. [Including the good stuff], I never have to numb that.* (Sophie, mother of three)

Five women had been diagnosed with mental health conditions including depression, anxiety, an eating disorder and bipolar disorder and they created buttons to map these as either distal, intermediate or proximal determinants in their lives. Women discussed how these conditions were often further exacerbated by previous and current experiences of trauma, and the high demands on their day to day lives. Women also identified supports for their mental wellness, often mapping buttons in the middle circle, including: ‘strength’, ‘safety’, ‘sharing my story’. They also discussed the importance of learning new coping techniques, healing from and
forgiving past abuses, and learning about their mental health issues and ways to support their own wellness as important supports for their mental wellness.

**Family connections.**

Family was a central focus of all women’s life experiences in the mapping exercise and as such became a focus of much discussion during the mapping process. Many women struggled with how to map their family’s influence in their lives, as often it was both positive and negative. While some explicitly mapped buttons with value-laden words like ‘family support’ or ‘family enablers’, others used a button with just the word ‘family’ to accommodate both the positive and negative influences of their family connections. The majority of women mapped words related to their families of origin in the middle or outer circle, and then mapped their children and partner in the inner circle. However, this was likely also due to the fact that for many women, their maps had an element of temporality to them and therefore their families of origin were considered to be removed or prior to their family consisting of their own children. Family was primarily mapped in the outer circle by women who were estranged from their families or saw them as having impacted either positively or negatively everything else in their lives. For women who mapped family in the middle circle, they saw them as either a support or detractor of their overall wellness, with most of them seeing family as a source of both.

Throughout their lives, family was a source of constant support and influence in women’s lives, especially their mothers, from whom they often sought advice in good and bad situations. The support was also mutual, with many women describing their roles caring for or supporting their families as well. They also discussed how residential schooling, intergenerational perpetuation of harm, involvement in the foster care system and experiences of abuse and neglect detracted from their ability to form and maintain healthy family connections. Constant or permanent separations from their families left some women desperate for connections. Belinda, a mother of three who had been adopted from birth with her two older sisters, explained that her first times trying alcohol, drugs and survival sex work were her efforts to feel connected with her older sisters (who were participating in those activities) and to have the “same feelings” as them.

‘Foster care’ involvement, and being apprehended and separated from family, was constructed and mapped as an important contributor to substance use. Not only were these experiences described as being extremely traumatic, but they were also for some women when they were first introduced to alcohol and drugs. Regardless of their childhood experiences,
forgiveness, reconnection and bonding with family members were identified as supporting their wellness, healing and recovery, and as such figured prominently on women’s maps.

**Relationships.**

Relationships played a large role in women’s wellness, through sharing, mutual support and love. Most women who were in positive relationships mapped ‘partner’ in their inner circle, as well as ‘partner’s support’ in the middle circle, reflecting their beliefs that maintaining healthy relationships was a source of wellness in their lives. Rose, a mother of six in a common-law relationship, reflected on the fact that over the years she had realized she didn’t like to be alone, and attributed that to her traumatic childhood experiences. As she explained, “I always just like to have somebody by my side, taking care of me as well. Taking care of each other.” Other women described their relationships with their partners as being mutually supportive, especially in terms of quitting alcohol and drug use. Mary, who had just had her third child with her husband, in describing how her partner helped her quit using substances, discussed how they “both have the same clean days. Yeah, he is supportive. He proposed to me when I got back from treatment.”

Women also explained that they found it hard to quit or reduce use when their partner was still using drugs or alcohol or when they were abusive. In these cases, women mapped terms like ‘partner’s influence’, ‘partner’s drug use’ or simply ‘partner’ in the middle circle to accommodate their conflicted feelings towards their partners whom they loved, but who also caused them harm. Women also often mapped these terms close to abuse terms in their outer circles as they discussed the cycle of violence in their lives. As Francesca, a mother of two who was pregnant at the time of interview, explained, “I never knew a relationship without getting hit […] everyone gets hit and it’s like another day.”

Important relationships in women’s lives extended beyond romantic relationships, and several women created buttons to map key people on the middle circle as sources of support in their lives. Several women discussed how having peer support from someone who had been through similar experiences that could “relate to” them was an integral part of getting them into treatment to begin their healing.

When asked how the person on their map had helped them, women responded with various answers including just by “being there”, by “being someone to talk to whenever I needed them” and by showing them things that they didn’t know, like practical skills in getting proper identification, and finding and signing up for services or programs. Important people women
identified on their maps included a school counsellor, a foster mom, outreach coordinators with specific programs, a friend from treatment, someone from church, their physician or nurse, and staff members at services that they frequented. Above all, women appreciated support from people who were non-judgmental and who showed understanding for what they had gone through and the challenges they were currently facing.

**Strength and hope.**

Throughout the mapping process, although women were discussing the determinants of health, they rarely discussed them as things that happened outside of themselves. Instead, while acknowledging the impacts of the various factors outside of their control in their lives, they also asserted ways that they had taken charge of their own and their family’s wellness and life outcomes. One of the most powerful examples of this commitment to self-determination was when women would place the button ‘stop the cycle’ in the centre of their maps, and talked hopefully about stopping experiences of harm and addiction with their own children. The button ‘inner strength’ was also placed near the centre of most women’s maps:

> And strength is one of the biggest ones because out of all... out of the fear... hope... like, I could say a lot of them... violence, stress, partners even. There’s always strength to your weaknesses. And if you remember those weaknesses, you could find a better strength to [get] through it again. (Francesca, expecting her third child)

Some women were reluctant to use the button ‘inner strength’ at first, with several of them asking the researcher “what do you mean by that?” After the researcher explained it meant the inner strength one must possess to survive and thrive in the face of often unthinkable challenges, all women agreed that this term applied to their lives. Strength was often placed next to the ‘pride and dignity’ button on women’s maps, which was described as something that they were striving towards, either through finding a job, going back to school, or “doing something that my kids can look up to”. For others, it was something they expressed they already had, through a strong sense of identity, maintaining their sobriety, their employment or their schooling, and providing for their families.

Most women placed the ‘hope’ button near the center of their maps, as either something that has supported them, or as something they needed in their lives. As Winifred, a mother of two, explained as she placed ‘hope’ on her inner circle, what she needed to reduce her use was
“to have something to look forward to”, such as, the possibility of regaining full custody of her daughter (which she currently shared with her dad). For many women, their future hopes and dreams revolved around their kids, either through the hope of regaining custody of them, or for having the opportunity to help them lead happy and safe lives. Some of them discussed how staying positive and looking to the future were often difficult due to the multiple obstacles and challenges they saw between where they were and where they wanted to be. Many women talked about the need to persevere and to fight to achieve wellness for themselves and their families: “I never stopped believing and I just… and somehow, someway […] things are slowly falling into place now in my life… you know. It might not be coming… you know… real fast but there's [hope]” (Cecile, mother of three currently in substance use treatment program).

Women also created buttons, such as ‘forgive’, ‘self-awareness’ and ‘survivor’, to identify things that supported healing in their lives. They expressed feelings of accomplishment and growth, through completion of treatment programs, or securing safe housing, spending time with their kids and providing financially for their families.

Mothering.

Throughout the mapping process, women’s children and their roles as mothers, appeared to be central to understanding patterns of substance use and health from women’s perspectives. Regardless of having custody or not of their kids, almost all women put their kids (or baby) at the centre of their maps, because they saw their kids as “all my life” and talked about how their love and bond with their children supported their overall wellness. The biggest detractor from their overall health was losing custody of their children or not being able to see them, either through lost visitation rights or as a self-imposed rule to protect their children from their substance use. Often, losing their children was linked to increased substance use, as well as other detrimental events in their lives, including losing their housing, and the end of relationships with their partners. Winifred, a mother of two, reflected on how being able to spend time with her daughter, through shared custody with her own father, always makes her feel better:

She is really smart and I am really proud. I consider myself lucky because she's that smart …even just being around my daughter, just like makes all the yucky feeling go away, you know... cause like we are doing a good job. I think we are. Cause I am there with her.
For all women, their kids were a huge source of pride in their lives, or as Margo said “my kids are my biggest accomplishment.” All women were intent on having a better family life for their children, and did what they thought was best for their family’s wellbeing. This included having an abortion, having their children live with other family or having them adopted to keep them safe and have a good home and parents, or keeping their kids in their own care. For many women, starting their own family was a source of healing and closure: “I’ve never had a real family. So that's all I wanted in my life. It's all I ever wanted was to be part of a family. To have my own.” (Sophie, mother of three)

Like women’s own relationships with their mothers, for those who had had their children apprehended, their bond remained unbreakable. Women positioned attacks on this bond as devastating to their well-being as well as that of their families. Feelings of grief, loss and hopelessness, apprehensions of women’s children often re-opened old wounds from their own childhood experiences. Many women described losing their children as a trauma tantamount to all of the previous traumatic experiences in their lives. Many women had a tumultuous, complicated, continuous and often forced relationship with the Ministry of Children and Family Development (MCFD). Most women placed MCFD at least in their middle circle and in some cases in all three circles to depict how entrenched the Ministry is in their lives. Most of them had mixed feelings about this relationship, and placing MCFD on the map did not require them to commit to them as positive or negative influence, but often represented both:

*I always didn’t like the Ministry of Children’s because I always [got] apprehended and... they took care of me, but they just took me away from my family. Um hum, [they do judge me]. [But] ya they do help you. When I got cleaned up and got my own place and stuff and they gave my daughter back to me, they gave me the resources and who to turn to for help and stuff when I need it. Ya, so they do good and bad.* (Winifred, mother of two)

As mothers, and often the heads of their families, women discussed the role responsibility, to themselves, their families and their communities, had in influencing their overall wellness. While in most cases women discussed how taking on responsibility was helpful to their wellness, others also discussed the need to let go of responsibilities that were overwhelming or detrimental to their lives:
Before I used to always worry and stress out about all [my parents’] shit, but now I have learned that’s their own baggage. I am an adult now and I have my own kids, so I need to worry about myself and my kids instead of taking on everybody else’s shit. (Rose, mother of six)

Women also stressed that helping others, feeling appreciated, and being independent as mothers, ultimately supported their wellness.

**Resources, supports and barriers.**

Women mapped various resources, supports and barriers mainly in the middle circle. While some women would place something in the middle circle and then proceed to explain if they understood that item as a resource or barrier in their lives, others discussed how it could be both, while a few women placed all positive things on one side of the map, and negative things on the other side as an organizing mechanism. Women identified several resources that supported their wellness, particularly in relation to their substance use. Women highlighted services that provided tangible and practical resources, as well as knowledge, to support them in their daily lives as mothers in a non-judgemental, harm reduction environment. As Linda, a new mother of one described, emotional support was also an important need for many women:

*If it wasn’t for the people at the [support centre], I wouldn’t have been able to do anything. They just loved coming over. They were his first aunties. Oh, they just came over to hold him. But, if I need anything I just gotta ask them and if they don’t know or if they can’t do it, then they direct me to someone who can…they're still in his life. I still go over and visit."

Women described the downtown areas of Prince George and Vancouver, where drugs were easily available and socially promoted, as barriers to their healing. However, these communities were also often where they felt accepted and safe, and where many of their close friends and families lived. This connectedness with their communities was a main obstacle in reducing or quitting alcohol or drug use. Many women identified making new friends, outside of these communities, as an important support in their wellness. Specific resources mapped by women included ‘methadone’ programs, ‘needle exchange’, ‘shelters’ and temporary ‘housing’, substance use ‘treatment’, ‘social workers’, ‘prenatal classes’, community support programs for

Women explained that “feeling judged” or “not welcome” were the main deterrents to accessing community supports, while some women discussed not wanting to access treatment because they either felt shame about previously attending and relapsing, or they were fearful of failure. Other barriers to attending treatment for women were the restrictions on their interactions during treatment and thoughts that quitting while away from ‘real life’ was not going to be helpful in the long run. A major support for many women who were contemplating quitting or who had already quit was the opportunity to help other people, as Sarah explained, while discussing her hopes for her future:

[I hope] that I can be a really strong role model for my family and for whoever that is struggling with any kind of addictions. I wouldn’t mind [working in] addictions…and being a good sober friend... I love helping people.

Unlike most research and policies in this area that are individualistic, women saw themselves and their wellbeing as being interconnected with the wellbeing of those people they loved and who loved them, much like they saw themselves, and their families, at the center of intersecting determinants of health.

**The intersections of determinants**

Once they had completed their CIRCLES maps, women were prompted to reflect on what they would want other people to understand about their lives. Women explained they wanted just that: understanding. They did not want people to judge them without first understanding the challenges they had faced and overcome in their lives, especially in relation to trauma. For some, making the CIRCLES map was the first time they had really thought about their lives in a holistic way. As Margo, a mother of three in her early thirties explained, the experience left her with a myriad of emotions:

*It gives you hope. I mean, you kind of look for support and then you’re going to, like school… it’s all… it’s fucked… it’s fucked. This is a weird [exercise] (laughs)….It’s weird. It’s cool. I like it. I don’t know… It’s [my life] messed up. I don’t think I’m, like, a bad person. I mean, I’m… I don’t know. I think I’ve been in bad situations… been*
around…. I’m stronger in certain areas because of the shit that I’ve gone through. But I also feel a little broken and where do you start... where did it start? When did it start?

Additionally, when reflecting on all the items they placed on their charts, most women were overwhelmed by how much they had been through, but they also felt empowered by what they had survived:

It's just all the stuff I went through... with my parents, residential school, foster care and then feeling abandoned and then having all the anger. Like with the Ministry .... [The chart makes me feel] empowered. Cause I have gone through a lot, you know... sometimes I am just like I can’t believe I am here, I had a crazy life, crazy, crazy life. (Sarah, mother of four, college student)

Several women talked about how seeing the map “puts it more into perspective” and allowed them to see how things were interconnected. When asked, there was not any one thing they could point to that supported or detracted from their wellness. Rather, they understood the items on their maps as intersecting and influencing each other to impact their experiences with substance use and pregnancy. They stressed that all of the determinants on their maps influenced their overall health and wellness and their experiences with substance use and pregnancy. Specifically, as depicted throughout the findings from this study, they saw determinants as interconnected and nested in their influence on their use of substances and experiences with pregnancy and mothering. When discussing different determinants in their lives, women made comments like “it all goes together” or “they’re all related to each other” to further explain the relationality between different influences in their lives; the combination or contribution from these influences in each woman’s life at the time of mapping, created for her an intersectional identity that was completely and uniquely context dependent.
This chapter reports on the integrated findings from the mixed methods study to address the third objective of this research project. Findings are reported to describe the social determinants of substance use among pregnant-involved young Aboriginal women, as well as their intersections. The research questions and hypotheses guiding this study as well as the details on the methods and analysis used for this study can be found in Chapter 3.

**Integrated Findings: The final step**

The final step of this project was to integrate the quantitative and qualitative findings (Chapters 4 to 6) into a social determinants of health model of drug and alcohol use among pregnant-involved young Aboriginal women through the use of convergent mixed methods. First, a secondary analysis of survey data was conducted to test an Aboriginal-specific social determinants model of health. The findings provided new insights into the broader determinants of substance use among young Aboriginal women and indicate that this model may not adequately capture woman-specific determinants of substance use among pregnant-involved young Aboriginal women (Chapter 4). Then a study, informed by ethnographic methods, was conducted using life history interviews with pregnant-involved young Aboriginal women who use substances. In this study, how or why determinants may influence substance use across their lives was revealed, including how women’s own strengths supported them and their families, throughout their lives (Chapter 5). The life history interviews were followed by a participant-generated mapping activity, CIRCLES. By prioritizing and honouring the voices and perspectives of young Aboriginal mothers who have experiences with substance use, new insights into how women understood the intersecting influences on their health and wellness were generated (Chapter 6).

The findings from all three studies were summarized in Table 12, as the final step of this research project, to examine how they converged or diverged in respect to factors that either contributed to (+) or detracted from (-) women’s wellness. In an effort to prioritize women’s voices and perspectives, the summary table of findings was organized according to the themes identified by young Aboriginal mothers while they created their own map of the social determinants of substance use during pregnancy (Chapter 6). As the secondary data analysis was
<table>
<thead>
<tr>
<th>Theme</th>
<th>Quantitative Findings</th>
<th>Qualitative Findings</th>
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<tbody>
<tr>
<td><strong>Traumatic Life Histories</strong></td>
<td>(+) Having ever received sexual abuse counselling, reported sexual abuse to anyone or having attended a support group in the last 6 months were all significantly associated with lighter IDU</td>
<td>(+) In coping with traumatic life histories, women discussed specific supports that contributed to their wellness such as: inner strength, resourcefulness, wanting to stop the cycle of harm with their own kids, using supportive coping strategies, and learning about the residential school system and their history and culture. They also discussed how helping others through sharing their own experiences was something that supported their wellness in this area.</td>
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<td></td>
<td>(-) High levels of parental drug or alcohol addiction, as well as family histories of survival sex were reported by all women. Having had at least one parent who went to residential school was significantly associated with heavy use of smoked drugs. 68% had ever been sexually abused, 40% had been to the ER in last 6 months, while about one fifth had been admitted to the hospital or cared for by an ambulance in the last 6 months.</td>
<td>(-) Traumatic life histories detracted from women’s wellness by creating fearful and unsafe childhood or adult environments that were defined by abuse, neglect, violence, and alcohol and drug use.</td>
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<td><strong>SES</strong></td>
<td>(+) Stable housing significantly associated with lighter use of smoked drugs. High use of food and housing services and service needs, accessing social or welfare worker in the last 6 months</td>
<td>(+) Safe stable housing and going to school were all considered key to supporting women’s wellness. Practical skills like learning strategies for food shopping and prep, prenatal classes and budgeting skills were considered supportive. Specifically women identified the following supports: control over resources and money, income assistance, child credits, disability payments, support from family, partners or friends, local programs, food vouchers, shelters &amp; temporary housing, participating in paid-research, legal gainful employment, drug-free, stable and safe living environments, and being exposed to “other ways of life” to support hope for the future</td>
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<td>(-) Low high school completion rates, high food insecurity, housing instability, and homelessness experiences. Median monthly income of $748 from all sources, including illegal activity, approx. 70% had participated in survival sex work. Survival sex in the last 6 months was significantly associated with heavy IDU. Being single was significantly associated with heavy use of smoked drugs.</td>
<td>(-) Women discussed how high mobility, low stability, unstable housing and homelessness detracted from their wellness. Other identified detractors from wellness included: food insecurity, learning disability, unstable home-life, lack of resources, caring for family members, poverty, survival sex work &amp; violence, illegal work (stealing, drug dealing), dependent partners.</td>
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<td>Theme</td>
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<td><strong>Culture, Identity &amp; Spirituality</strong></td>
<td>(+) ~50% of women said that they speak traditional language, and are interested in more culturally specific addictions treatments. Cultural continuity has been shown to buffer against substance use and addictions.</td>
<td>(+) Women explained that feeling pride about their identity and culture and having knowledge about culture, cultural practices, traditional and spiritual healing practices supported their wellness and helped give them a sense of belonging/identity. They discussed the importance of having culturally sensitive substance use treatment options, a strong sense of history and exposure to culture from an early age. Participating in traditional healing ceremonies (sweats/smudging) or having faith in higher power and teaching and sharing culture and traditions with next generation all contributed to their wellness and feeling connected and grounded.</td>
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<td>(-) About half had at least one parent who went to residential school. Over two thirds had a family history of residential school. Having had at least one parent who went to residential school was significantly associated with heavy use of smoked drugs.</td>
<td>(-) Not having a strong sense of identity, culture and spirituality was explained to detract from wellness through feelings of loneliness, feeling like an outcast, and succumbing to peer pressure to belong. Women also discussed how internalizing feelings from racism were detrimental to their wellness.</td>
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<td><strong>Shame &amp; Guilt</strong></td>
<td>(+) Having ever received sexual abuse counselling, reported sexual abuse to anyone or having attended a support group in the last 6 months were all significantly associated with lighter IDU, possibly because these activities helped prevent feelings of shame and guilt women have reported as a consequence of experiencing abuse.</td>
<td>(+) Women discussed dealing with feelings of shame and guilt through a number of strategies that supported their wellness, including: reaching out, asking for help, bonding with kids, journaling, therapy, substance use treatment, talking about feelings, sharing story with others, gaining closure with people who had harmed them, learning about residential school history, learning strategies to manage negative emotions, and being able to communicate feelings with others.</td>
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<td>(-) 68% had ever been sexually abused, which women have reported is associated with feelings of shame and guilt.</td>
<td>(-) Feelings of shame and guilt detracted from women’s wellness and were manifestations of other negative and related experiences/feelings, including: emotional impacts of abuse and violence, emotional abuse, low self-esteem, feeling like a burden to others, losing custody of kids, pregnancy loss or terminations, anger, frustration, being judged, bullied, rejected or abandoned. Women talked about how these feelings resulted in avoidance of people and environments that made them feel these emotions which detracted from their wellness.</td>
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<td><strong>Mental Health</strong></td>
<td>(+) Having ever received sexual abuse counselling, reported sexual abuse to anyone or having attended a support group in the last 6 mos were all significantly associated with lighter IDU</td>
<td>(+)Women’s mental health and wellness was supported through: feeling safe, sharing story with others, learning healthy coping techniques, healing from and forgiving past abuses, learning about their mental health, and incorporating cultural teachings and traditional healing to support their mental health.</td>
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<td></td>
<td>(-) 68% of the sample reported having ever been sexually abused, which women have reported is associated with poorer mental health.</td>
<td>(-) Detractors of women’s mental health and wellness included: stress from juggling multiple roles, multiple demands and own daily needs, fear, confusion, pressure, anger, unresolved grief and loss, anxiety, depression, eating disorder, bipolar disorder, PTSD.</td>
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<td><strong>Family</strong></td>
<td>(-) Median age first left home was 15, and two thirds had ever been taken from their biological</td>
<td>(+) Women’s wellness was supported through family’s practical and emotional support and through healthy bonding and connections.</td>
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<td>Connections</td>
<td>Having had at least one parent who went to residential school was significantly associated with heavy use of smoked drugs.</td>
<td>Traumatic family separations including being apprehended, leaving home early and living with extended family members, residential school histories, intergenerational perpetuation of harm, parental alcohol and drug addiction, family history of survival sex, abuse, neglect and violence, unsafe foster homes, and lack of connection all detracted from women’s wellness.</td>
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<td>Relationships</td>
<td>(+) Having a partner was significantly associated with less heavy use of smoked drugs</td>
<td>Women discussed how relationships supported their wellness by providing them with: nurturing, love, support, trust, peer support, a confidant, safety, someone to learn from, and reciprocal caring and concern. Examples of people who have made lasting positive impacts in women’s lives by being non-judgemental and showing understanding included: school counsellor, foster mom, outreach coordinators, friends from treatment, fellow church member, physician or nurse and staff members at services they use, making new friends outside of friendship circles from when they used to use alcohol or drugs. Relationship issues like dealing with judgemental people, difficulty forming trusting bonds, and not feeling understood also detracted from women’s wellness.</td>
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<td>Strength &amp;</td>
<td>No Measures</td>
<td>Women expressed that feelings of inner strength, pride and dignity and hope supported their wellness. Specifically, women gained strength and hope through: going back to school, finding a job, showing growth, healing, perseverance, survival, forgiveness, self-respect, feelings of accomplishment, and feeling empowered through skills and knowledge. Helping others, feeling appreciated, being independent, taking responsibility for self, stopping the cycle of harm, reciprocal relationships, mutual accountability, and letting go of baggage all contributed to women’s wellness. Women’s wellness was often detracted from in the form of competing priorities, overwhelming responsibility, and feelings of too much pressure.</td>
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<td>Hope</td>
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<td>Mothering</td>
<td>No Measures</td>
<td>Women’s wellness as mothers was supported through a healthy Mother-child bond, experiences of love, making kids proud, protecting kids, stopping or reducing alcohol and drug use, spending time with kids, and stopping the cycle of harm with own children. Detractors from women’s wellness as mothers included: losing custody of children, losing contact with children, heavy alcohol or drug use, experiences of abuse and violence, multiple and repeated obstacles and challenges, feeling lack of control over life, body and future, feeling hopeless, judgment and stigma, shame and guilt, and pregnancy loss or terminations.</td>
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<td>Quantitative Findings</td>
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<td>Resources, Supports &amp; Barriers</td>
<td>(+) Women in the sample reported a high use of counselling services, housing services, social/welfare services, needle exchange, health care providers, and a few used support groups, suggesting that these resources are supportive for women. (-) About one quarter had been denied housing or a service due to drug use, while a few felt there were service barriers for them.</td>
<td>(+) Women’s wellness was supported through services that were safe, welcoming, and non-judgemental and provided resources and supports for practical needs (food, housing, advocacy, parenting, job placements) and emotional support (feeling welcome, accepted and understood). Other supports identified were social workers, prenatal classes, and mother-child programs. The methadone program, needle exchange, shelters/temporary housing, stable housing, substance use treatment, and harm reduction were also identified as important supports for women’s wellness. (-) Feeling judged or not welcome were main deterrents for not accessing community supports and resources.</td>
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limited to previously collected data, there were not always directly analogous measures for the determinants identified by women in the qualitative study. Therefore, the most relevant findings from the secondary data analysis to each theme are reported in the table, and as such, they may appear in more than one theme.

The comparisons shown in Table 12 highlight several main points that can be learned about pregnant-involved young Aboriginal women’s experiences with substance use. Firstly, the life experiences and contexts of women’s lives are complex and interconnected and cannot be depicted through linear or additive relationships. Instead, circular and nested relationships are more reflective of the intersections of different influences in women’s lives and their influence on substance use and mothering experiences. For example, as shown in the table, within any given theme, several different descriptors and elements were identified by women to have an impact not only on their substance use, but on one another within and between themes. As such, although categorizing the data was an important step for analysis, it also revealed that interpreting the data through clear cut categorizations was insufficient for capturing the interactions and intersections of the determinants in women’s lives.

Secondly, pregnant-involved young Aboriginal women are not passive participants on whom determinants are enacted. Instead, they are actively engaging with the different determinants in their lives, and their autonomy and active role in their own and their family’s lives are essential to understanding the determinants of substance use. As shown in the table, although women did identify determinants and how they impacted on them, per se, they also identified and discussed their response to determinants. These responses were both in relation to the emotions and feelings related to particular determinants, but also in terms of their strategies, resourcefulness and actions to support their own and their family’s wellness in relation to specific determinants. For example, although many women identified stress (related to child apprehensions, poverty, lack of resources etc.) as a detractor from their mental health and overall well-being and wellness, they also identified things like journaling, therapy, sharing their story and inner strength as their responses and resistance to these negative determinants in their lives to support their own and their family’s health and wellness.

Finally, and importantly, substance use was just one aspect of women’s complex lives and health experiences. Despite the tendency of researchers to focus on specific health behaviours, for pregnant-involved young Aboriginal women, they discussed their health and well-being in a
holistic manner that included substance use as just one part of their conceptualizations of their overall wellness. Therefore, although substance use was a central topic and concern for women (given the sample and research focus), it was not considered the be all and end all of their health status and roles as mothers. Instead, as shown in the table, there were a multitude of factors that not only influenced their substance use, but also either contributed to or detracted from their overall wellness and happiness as women, mothers and partners. For example, women often discussed how things like increased family connections, access to safe housing, and having pride and dignity would increase their overall health and wellness, regardless of their continued use of substances. For many women, their use of substances was considered as something in the periphery of their lives as a whole, and it was not seen as the defining characteristic of their lives, their identities or their roles as mothers. Based on this analysis, a final model of the social determinants of substance use during pregnancy among young Aboriginal women is proposed.

A Social Determinants of Wellness Model: Supporting wellness among young Aboriginal mothers who have experiences with alcohol or drugs

Although the goal of this research project was to create a social determinants of health model of substance use, throughout the research process it became clear that a social determinants of wellness model was most appropriate to reflect women’s focus on their holistic wellness rather than just their use of substances as the central concern of the model. As such, Figure 17 shows a new proposed model for understanding the social determinants of wellness among pregnant-involved young Aboriginal women. An overarching theme throughout the research process was the ideas of interconnectedness, intersections of social determinants and holistic health. While substance use and pregnancy were the main foci of this research, throughout women’s stories these were just two factors in a complex interaction of determinants that impacted their wellness overall. Based on the findings from this research project, this new proposed model was developed in an effort to capture young Aboriginal women’s perspectives on determinants that support their wellness in the context of their life experiences with pregnancy, mothering and substance use.
Figure 17. Social Determinants of Wellness Model for Pregnant-Involved Young Aboriginal Women with a History of Substance Use.
The Social Determinants of Wellness Model for Pregnant-Involved Young Aboriginal Women with a History of Substance Use (SDW) is a woman-centered and woman-informed model that accommodates the intersectional relationships between the different social determinants in women’s lives, while honouring their goals for better health for themselves and their families. The SDW model also highlights the influence of Aboriginal-specific determinants and makes explicit the need to understand women’s wellness in relation to the socio-political context within which women are situated. The SDW model includes three concentric circles that are placed within the socio-political context of young Aboriginal women’s lives to represent that all subsequent determinants must be understood through the filter of acknowledging the influence of colonialism, residential school, intergenerational trauma and resilience. Each circle represents the proximal, intermediate and distal social determinants of women’s wellness and the nested and intersectional relationships between determinants at each level. The figure representing an Aboriginal mother in the centre of the model signifies her autonomy and her centrality in the model within the dimensions of the circles. Below the figure is a legend with examples of words women used to describe the social determinants of wellness in each category, in an effort to keep the model focused on women’s voices, needs and priorities. Similarly, women’s words are included to prioritize their understandings of what these social determinants mean for them and their families.

Although the FNHA’s perspective on wellness (Figure 8, p. 81) informed this research project and the SDW model, in order to prioritize women’s perspectives on wellness, the SDW model only includes those determinants that were specifically identified by women. As such, several determinants within the FNHA’s perspective on wellness, namely wisdom, respect, land and nation, are not included in the SDW Model. The role of trauma and buffers in women’s lives represented in the SDW model is supported by other research and the Indigenist Stress-Coping Model of addictions (Walters & Simoni, 2002). However, unlike the Indigenist Stress-Coping Model of Addictions, the SDW model is expanded to include the broader contexts and determinants in women’s lives and their wellness. Although the SDW model is an explanatory model, by making explicit the different social determinants of wellness that influence women’s lives, points for intervention and action at the political, social and individual levels can be identified to further support women’s wellness and to further strengthen their roles in their communities and families, as well as their position as mothers. This action-amenable aspect of the SDW model is one of its main contributions to improving health and wellness outcomes for pregnant-involved young Aboriginal women with a history of substance use in Canada.
Although there are some similarities between the *ILCSD Model* (Figure 3, p. 37) and the new model proposed in Figure 17, there are notable differences that reflect the realities of pregnant-involved young Aboriginal women’s lives that arose in this study. First of all, the new model is framed from the perspective of wellness, and positions positive supports in women’s lives as the focus of the model, rather than highlighting negative influences on their health. Secondly, colonialism is considered a part of women’s socio-political context (outside of the three circles), rather than as a distal determinant as shown in the *ILCSD Model*, along with residential school, intergenerational trauma and resiliency. With this change, the *SDW* model stipulates that every other determinant in the model must be understood and filtered through these four determinants. The study findings indicated that every part of women’s lives continue to be impacted by colonial and neo-colonial practices, family history of residential school involvement, and the perpetuation of harms on account of intergenerational trauma. Most importantly, however, resiliency, both communal and individual, is an important component of the women’s lives, to sustain indigenous cultures, identity and agency within extremely challenging circumstances. By creating this context, and placing the woman at the centre, this model can challenge societal views and policies that have served to marginalize and silence women’s voices while encouraging women-centered supports of pregnant-involved Aboriginal women’s wellness.

The findings from this research project have implications for future research in this area, as well as practical directions for future policy development that will be discussed in Chapter 8 following a discussion of the research findings as a whole.
Chapter 8 Discussion & Future Directions

This research was conducted in the context of increasing dissatisfaction with the health promotion discourse surrounding women in Canada, and in particular, the emerging interest in more contextualized understandings of the social determinants of health for women. Specifically, when it comes to understanding the lives of women in Canada in relation to healthy living, previous calls for the need to pay attention to the causes of causes have led to limited progress (Pederson et al., 2013). While there has been some work done to describe health patterns for women (especially in the areas of diet, exercise and body weight), there has been far less focus on understanding why certain health patterns exist, or what implications these patterns may have for girls and women’s health and well-being in a broader sense (Pederson et al., 2013). In the same vein, little is known about what healthy living looks like from women’s perspectives (Pederson et al.). This is especially true among Aboriginal mothers who use alcohol and drugs, where deficit-based research has dominated the landscape with little attention to the perspectives or strengths of women themselves (Greaves et al., 2002; Greaves et al., 2011; Halseth, 2013; Hunting, 2012; Hunting & Browne, 2012; King, Smith, & Gracey, 2009; Niccols, Dell, & Clarke, 2010; Mann, 2013; Poole & Greaves, 2007; Poole & Greaves, 2009; Poole, Urquhart, & Talbot, 2010; Salmon, 2011).

In the collection Rethinking Women and Healthy Living in Canada, the editors, Pederson et al. (2013), call for the need to:

re-think the concept of healthy living using sex, gender, diversity and equity to reflect upon what we know about healthy living when it comes to diverse populations of girls and women, and to consider new approaches to supporting girls and women to lead healthy lives (p. 9).

In particular, they criticize the current healthy living discourse in Canada for its overemphasis on the impact of individual choices and behaviour change to the exclusion of examining how social processes and collective responsibility impact health outcomes. This discourse around healthy living, which often ignores intersections of health determinants and subsequently the variation of how health is experienced on account of intersecting factors such as gender and socioeconomic status, is not only inadequate, but can contribute to deepening inequity and cause harm to women and girls (Clow, 2013). Instead, one of the contributing
authors insists “that the individual should not be the sole or even the primary focus of healthy living policies and programs. Equipping individuals with the knowledge to make healthy choices is only effective if structural and systemic barriers are also addressed” (Clow, 2013, p.46). Similarly, there has been increased pressure from researchers and Aboriginal communities alike to move away from the constant describing of the “Aboriginal problem” in terms of individual health outcomes, towards solution-orientated and wellness-focused research and policies (Richmond & Ross, 2009).

In 2013, in partnership with the British Columbia Ministry of Health and Health Canada, the First Nations Health Authority in BC released *A Path Forward: BC First Nations and Aboriginal People’s Mental Wellness and Substance Use- 10 year plan* (FNHA, 2013). The Plan insists that any work done with Aboriginal peoples in the area of problematic substance use must acknowledge the Aboriginal worldview concepts of wholeness, balance and the importance of relationships with family, community, ancestors and the natural environment (FNHA, 2013). Specifically, the Plan calls for the examination of substance use problems in a trauma-informed, holistic way, using a lifespan approach that respects First Nations and Aboriginal individuals, families and communities, in order to support healing (FNHA, 2013). The findings from this research project, and each of its related studies, contribute knowledge to filling the gaps identified by both the *Rethinking Women and Healthy Living in Canada* report and the FNHA’s 10-year Plan in terms of understanding substance use among pregnant-involved young Aboriginal women.

In order to understand the social determinants of substance use during pregnancy from the perspective of young Aboriginal women themselves, a convergent mixed methods research project was conducted. The research project included: a) a secondary analysis of survey data from a sample of pregnant-involved young Aboriginal women who use substances in British Columbia (N=291); b) qualitative life history interviews (N=23), supplemented by a participant-generated mapping activity CIRCLES (Charting Intersectional Relationships in the Context of Life Experiences with Substances) (N=17) were conducted in an effort to ‘fill in the story behind the numbers’; and c) an integration of quantitative and qualitative findings to propose a new model for understanding the social determinants of substance use among pregnant-involved young Aboriginal women.
A discussion of the major findings from the quantitative and qualitative studies respectively precedes a discussion of the overall, integrated findings from this research project as a whole, including a discussion of the proposed new model of the social determinants of wellness among pregnant-involved young Aboriginal women (Figure 17, p. 151). Based on these findings, directions for future research and programs and policies with young Aboriginal women are proposed prior to a discussion of the strengths and limitations of this research project. Finally, the conclusion closes this final chapter of the dissertation.

**Testing an Aboriginal-Specific Social Determinants of Health Model**

This study is one of the first to evaluate an Aboriginal-specific social determinants model to identify predictors of substance use among pregnant-involved Aboriginal women. The *Integrated Life Course and Social Determinants Model of Aboriginal Health (ILCSD model)* (Reading & Wien, 2009) provided the opportunity to examine variables not previously examined in the epidemiological literature among Aboriginal women (Shahram, 2015). The inclusion of variables that measured the lifelong and future impacts of colonialism and cultural continuity provided a more complete picture of the social determinants of substance use, from an Aboriginal-specific perspective.

Although the ILCSD model proposes that interactions between proximal, intermediate and distal determinants are key to understanding social determinants of health, this study did not find any support for this notion. These findings, however, need to be considered in light of several caveats: first, because this was a secondary data analysis, data were not collected with the intention to test this model, and therefore variables that were selected to measure each level of determinants were fit into the model retrospectively. As such, the variables may have not been good proxy measures for the determinants in question, and the variables were certainly not exhaustive in terms of representing all parts of the model. Second, the model was not designed specifically to explain substance use or women’s health, but for overall health and wellness of Aboriginal peoples. While substance use is considered a negative health condition, it is only one contributing factor to overall health and wellness. In addition, the model was designed to explain health determinants for Aboriginal peoples (i.e., both women and men) and, therefore, does not explicitly describe gender-specific factors that influence Aboriginal women’s health. And, lastly, the participants in this sample were all currently using substances and therefore there was not a large range on most of the predictors. Conducting this analysis comparing women who do and do not use substances may provide a more robust test of the model.
Although the analysis did not support the idea of mediation effects between the different levels of determinants, the findings of this study provide further support for the importance of contextual factors specific to Aboriginal peoples in Canada, particularly in relation to colonialism and socio-political contexts. High levels of poverty, homelessness, housing instability, lack of education, involvement in the child welfare system, visits to the emergency room, survival sex work, and the high levels of sexual abuse were all important predictors of substance use in the study sample. Given the relationship of all of these factors with historical and contemporary colonization practices, and the fact that over 70% of the sample had a family history of residential school attendance and addiction, it is clear that the intergenerational impacts of residential schooling, addiction, survival sex and trauma must foreground any deeper understanding of substance use among young Aboriginal women. Explicit attention to these factors has been decidedly absent from much of the literature examining substance use among Indigenous women (Shahram, 2015), while a lack of meaningful data that captures the distinct sociopolitical, historical and geographical contexts of Indigenous women’s lives has limited discussions on these topics (Allan & Smylie, 2015; Greenwood & de Leeuw, 2012; Smylie, 2009). These findings provide further support for the need to understand Indigenous health in Canada within the context of colonial practices both past and present (Allen & Smylie, 2015; Greenwood & de Leeuw, 2012).

In testing the ILCSD Model important independent risk and protective factors for heavy alcohol or drug use were identified. Several significant relationships between social determinants and heavy alcohol or drug use were found. Among participants who had ever been sexually abused, having ever reported sexual abuse to anyone was found to be associated with lower alcohol use. These findings are in keeping with previous research that has shown that disclosure of childhood sexual abuse is a key step towards healing (Draucker et al., 2011). In their study, Draucker et al. found that disclosing abuse was the main way participants were able to make sense of their experiences, and that having someone else’s supportive perspective allowed them to arrive at an understanding of the abuse that was more complex and multidimensional. Being single, having unstable housing and having had one parent attend residential school were all associated with increased use of smoked drugs after adjusting for all other predictors.

Previous research has shown that women’s substance use is often positively correlated to their partner’s use (Rhoades, Leve, Harold, Kim & Chamberlain, 2014), and in this case it
appears that having a partner results in lower use of smoked drugs. Having spoken anecdotally with community workers and women who use injection drugs, they have suggested that for many women, their partners initiate their first use of injection drugs, as well as continue to inject for them, and so there is the possibility that single women have higher use of smoked drugs because they have not progressed to injection drug use. For many women in the life history interviews, their first experience with injection drug use often involved being injected by a partner. Further research on this topic would be beneficial to further understand how couple dynamics impact progression to injection drug use. The association between parental residential school attendance and increased use of smoked drugs is an indicator of the importance for understanding intergenerational trauma and the perpetuation of harms among young Aboriginal women as well as the impacts of foster care involvement, which is understood as directly linked with residential school histories.

Having participated in survival sex in the last six months was associated with daily or more injection drug use. This relationship could be bi-directional because women may be participating in survival sex to support their heavier use, or they may be using drugs more heavily to cope with survival sex. Anecdotal discussions with participants suggest that both of these rationales are viable. Not surprisingly, more than daily use of injection drugs was also highly associated with accessing the needle exchange. Also, having a higher number of pregnancies, having received sex abuse counselling and attending a support group in the last six months, were all protective against more than daily use of injection drugs. These findings again suggest that attending to sexual abuse trauma can be protective, and that peer support is also a promising strategy for some women. The findings also suggest that pregnancies can be protective for women as well, possibly because they reduce drug use for the pregnancies, and/or because of increased supports during pregnancy which allow for the reduction of drug use or the prevention of increased use in the first place. Finally, having experienced barriers to any services (health and supportive) was also associated with lower injection drug use. This may be because those who are heavier users are less aware of or connected to services to perceive any barriers. Similarly, if those women are not accessing services as much as women who use less, then they would not have had an opportunity to encounter any barriers to services.

In a survey of female sex workers in British Columbia who have ever been pregnant (n=399), researchers examined women’s experiences with barriers to health, social and support services while pregnant or parenting (Duff et al., 2014). They found that participants’ histories
of injection drug use further compounded risks in their lives and added to barriers to parenting. Participants reported limited access to appropriate non-judgmental services to support their needs as women who participated in survival sex work and who used drug. Additionally, they found that sex workers may have mitigated access to environments or services that support them as pregnant women/parents. Therefore, when considering this research project’s findings, survival sex work may be confounding or contributing to the other associations with injection drug use.

The Contribution of Pregnant-Involved Young Aboriginal Women’s Histories

Women’s stories clearly depicted the realities of how the downstream impacts of colonialism, the residential school system, sixties scoop and foster care involvement and triple marginalization, continue to shape young Aboriginal mothers’ lives and experiences in Canada today. Through life history interviews, the complex intersections that can lead to the cyclical and intergenerational perpetuation of harm (including child apprehensions, trauma, addictions, abuse, attachment issues, and unhealthy coping strategies) became tangible ideas that were able to be elucidated. As a deeper understanding of women’s stories emerged, common trajectories became apparent between adverse childhood experiences, including familial addiction problems, childhood experiences of abuse, violence, neglect and instability, and high involvement in the foster care system and early drug and alcohol use as a coping mechanism. Exploring women’s life histories also provided important social, political and historical contexts to understanding substance use during pregnancy among young Aboriginal women. Women’s stories highlighted the importance of historical and intergenerational impacts of trauma, the use of substances as a coping mechanism to deal with multiple abuses, the multiple, complex and intersectional influences in the lives of young Aboriginal mothers, and the importance of the mother-child bond to women’s wellbeing and recovery. Most importantly, women’s stories highlighted their incredible strength, and pointed towards the need to understand their life experiences from a resiliency perspective.

The trauma experiences among women in this research project is in keeping with previous findings that have shown that around the world, a large majority of women with addiction problems have suffered violence and other forms of abuse, and a history of abuse drastically increases the likelihood that a woman will abuse alcohol and other drugs (CNSAAP, 2012; Covington, 2008). Accordingly, women all characterized their substance use as a coping mechanism, whereby the use of alcohol and drugs must be understood as a secondary behavioural attempt to numb or soothe feelings associated with trauma experiences that have
overwhelmed a woman’s normal coping mechanisms. Women’s use of substances to cope with trauma has also been reported by others (Covington, 2008; Haskell & Randall, 2009).

As evidenced by women’s stories of repeated cycles and perpetuations of harm in their life histories, pregnant Aboriginal women often represent a literal “site” of intergenerational trauma. As such, working with Aboriginal mothers and their children to buffer against these impacts would be a great support. Many of these issues stem back to colonial practices exerted on Aboriginal families, particularly through residential schools, and are exemplified in the high proportion of participants who were either previously or currently involved in the child welfare system. Women also identified violence and all forms of abuse as having devastating effects on their wellness, particularly in relation to using alcohol or drugs. These findings are not surprising, considering that a recent study found that violent victimization rates were almost three times higher among Aboriginal women in Canada than among non-Aboriginal women (Brennan, 2011). Many women expressed that the high rates of violence and addictions in their communities, families and day-to-day lives were manifestations of poverty, as well as the legacy of colonial policies, like the residential school system (Brennan, 2011). The legacy of colonial policies and practices was also blatantly apparent when women discussed how culture and identity impacted their wellness. The fact that many of the participants had not had exposure to their culture, or struggled with their identity must be understood as directly linked to colonial and neo-colonial processes, including racialization and discrimination practices that have taken a serious toll on the mental health of Aboriginal peoples (Allen & Smylie, 2015; Browne et al., 2009).

The findings also support previous research describing the often cyclical nature of determinants of health, where inequalities in one determinant can stem from inequalities in another, that perpetuate a cycle of inequities that women faced on a daily basis (Bougie, Kelly-Scott, Arrigada, 2013; Browne et al., 2009; Halseth, 2013; NCCAH, 2010; Place, 2012). For example, education is a fundamental determinant of income and subsequent material security for individuals and families (Place, 2012), while family hardship, including limited resources often contribute to low educational attainment (Bougie, Kelly-Scott, & Arrigada, 2013). This was reflected in the findings from life history interviews with most women identifying education as a major contributor to wellness, and with many of them expressing regret that they had not completed or advanced their education as much as they had wanted. Many women left school early for family reasons, in keeping with previous research that found First Nations females were
more likely to cite personal or family reasons for leaving school early than males, with the most common reason for leaving being pregnancy or to care for their children (Bougie, Kelly-Scott, Arrigada). However, one major contribution from the life histories data to the literature on this topic is that, by analysing women’s life histories, their strategies for survival, inner strength and capacities for love, healing and resilience were also apparent. In terms of the issue of substance use during pregnancy, these narratives have been all but absent from the research landscape, and it is precisely these stories that can inform future policies and interventions to support young Aboriginal mothers and their families (Allan & Smiley, 2015; Clark, 2007; Gilchrist, 2010).

Similarly, while women created their CIRCLES maps in follow-up interviews (Chapter 6), they identified not only things that contributed to their substance use and negative life experiences, but also focused on the things that helped them heal, supported their reduction or cessation of alcohol or drug use, and contributed to their own and their family’s overall wellness. Women highlighted their goals for their futures, and most saw their final CIRCLES map as a type of road-map from where they had been, to where they wanted to be. Overall, regardless of what each woman’s current situation was, in creating their CIRCLES maps, their approach was hopeful, in contrast to prevailing pathologizing portrayals of Indigenous peoples and their health (Allen & Smylie, 2015) and in keeping with previous research with Aboriginal women that has highlighted their own experiences and perspectives (Kurtz et al., 2008).

Boyer (2009) suggests that the desperate circumstances surrounding many Aboriginal women have been compounded by sexist stereotypes and racist attitudes towards Indigenous women and girls that persist in Canadian society today. The resulting vulnerability of Aboriginal women in Canada (on account of systemic racism, policies of assimilation and cultural genocide), has subsequently and continuously been exploited by Indigenous and non-Indigenous men to carry out acts of extreme brutality against Indigenous women (Boyer, 2009). Furthermore, Boyer argues that the general indifference to the welfare and safety of Aboriginal women and girls is blatantly evident in Canada’s inadequate response to the number of Indigenous women who have been murdered or gone missing over the last 20 years. Still, as shown in this study’s findings, the scale and scope of the challenges faced by pregnant-involved young Aboriginal women who use alcohol and drugs, and their persistence and survival despite these great odds, is clear evidence of their individual and collective resilience. Accordingly, then, as opposed to focusing exclusively on vulnerability and pathology, also including a focus on resilience necessarily shifts the attention to the resources, strengths and positive outcomes in
these women’s lives (Kirmayer et al., 2012) while highlighting opportunities to further foster and support resilience through policies and interventions.

**Experiences of Resiliency among Pregnant-Involved Aboriginal Women**

The social determinants of substance use among pregnant-involved women identified by women in this study reflect previous research findings, albeit with some important differences. Although the findings make clear that the current realities of women’s lives have been shaped by historical circumstances, they also highlight women’s own autonomy and abilities to reshape their lives in the face of overwhelming challenges. Specifically, women identified many things that support their wellness and that of their families; interventions and policies that support women’s self-determination and empowerment, while working to prevent those determinants that detract from wellness, are warranted.

Resilience is defined as the ability to recover from challenges faced in everyday life (Wesley-Esquimax, 2009), as a measurement of hardiness (Kirmayer et al., 2012) or historically, what has been referred to as individual and community social psychological adaptation to life challenges (Kurtz, 2011). Women in this study showed incredible resilience, demonstrated in their abilities to not only face and overcome atrocities, but also in their abilities to continue to forgive, to give and accept love and to hope for a better future for themselves and their children. In previous research with Aboriginal women, women discussed how using their voice in research studies was purposeful for them, as they hoped by sharing their story they could help improve life for themselves, their families and communities, as a demonstration of their commitment to the future and their roles as “woman warriors” (Kurtz, 2011, pg. 188). These sentiments can also be applied to women in this study, who described themselves as survivors and fighters, and repeatedly talked about their desire to help others through their own experiences.

While numerous authors have written about and explored the topics of resilience, resistance, trauma, co-dependency, and post-traumatic healing to analyze successes and failures in the lives of Aboriginal people in Canada (Alfred, 2005; Andersson, 2008; Andersson & Ledogar, 2008; Dion Stout & Kipling, 2003; Kirmayer, Brass, & Valaskakis, 2009; Smith, 2006; Tousignant, & Sioui, 2009), when thinking about Aboriginal women’s ability and strength to lead successful lives in particular, Kurtz (2011) wonders if this ability is actually rooted in hope for a better life for them and for their people in years to come. Regardless, what is evident in these research findings is, as Kurtz suggests, the need to acknowledge the complexities involved
in young Aboriginal women’s lives, and their dynamic and resilient representations of themselves as they navigate substance use and motherhood, in an effort to inform interventions and policies which can support women and their families’ wellness.

**The Social Determinants of Wellness Model for Pregnant-Involved Young Aboriginal Women with a History of Substance Use**

When integrating the findings from this project, it became clear that the qualitative findings were essential, not only to provide context to the quantitative findings, but also to honour the voices, stories and perspectives of Aboriginal women themselves. A mixed-methods approach was therefore paramount to generating information about Aboriginal women’s health that was necessarily located within the complex social, historical and political context of colonial practices both past and present (Allen & Smylie, 2015; Greenwood & de Leeuw, 2012). Moreover, by contextualizing the quantitative findings through women’s life histories, this research project was able to counter the fact that most stories about Indigenous health told in Canada in mainstream society are characterized by racist stereotypes and images and do not feature Indigenous voices (Allen & Smylie, 2015; Browne, et al., 2009; Clark, 2007; Gilchrist, 2010).

A major contribution of this mixed method study is the development of a new model, the *Social Determinants of Wellness Model for pregnant-involved young Aboriginal women with a history of substance use (SDW model)*. This model was developed directly from the findings of this dissertation research. Although the ILCSD model (Reading & Wien, 2009) and the FNHA’s model of holistic wellness (FNHA, 2010) underpinned this research, the SDW model represents an understanding of social determinants that is shaped directly by the experiences and voices of Aboriginal women. In the following section, first the findings will be discussed in relation to the strengths and limitations of the *ILCSD Model* for understanding the social determinants of substance use among pregnant-involved young Aboriginal women. Then, the findings will be discussed in relation to the need for a women-centred model. A brief description of the *SDW* model and its contribution to understanding substance use among pregnant-involved young Aboriginal women completes this section.

The *ILCSD Model* provided important background for this research by identifying Aboriginal-specific determinants of health (Reading & Wien, 2009). The findings of this study highlight both strengths and limitations of the ILCSD model for explaining social determinants influencing substance use among pregnant-involved Aboriginal women. The profile of social
determinants examined on the basis of the ILCSD model in the quantitative study sample reveals an array of health vulnerabilities that must be considered in any examination of substance use among pregnant-involved Aboriginal women. In this way, the findings provide empirical support for the importance of integrating socio-historical contexts into models of determinants of substance use as reflected in the ILCSD.

The notion of nested, relational and intersectional relationships is a predominant feature of the ILCSD model ((Reading & Wien, 2009), and the design of the CIRCLES map was informed by this notion. Many women commented on how helpful, eye-opening or “cool” it was to see all of the influences in their lives mapped out in a way that showed how each thing contributed to their life experiences in an interrelated, non-linear manner. In contrast to the ILCSD model, however, most women created their maps with the outer circle depicting things that were part of their history or their past, including negative influences in their lives, the middle circle depicting things or people that supported them or made life harder for them, and the inner circle represented things that women currently had in their lives, or their hopes for the future. When considering the emphasis on intersectionality in understanding differentially lived social inequalities among people (de Leeuw & Greenwood, 2011), this temporal element of women’s understandings of the intersections between different determinants in their lives seems appropriate. Women’s stories highlighted the relevance of intersectionality-based analysis to reveal the multiple social locations and power influences that impacted their life experiences, while also pointing to the importance of approaching research from a post-colonial perspective. These factors are reflected in the ILCSD model. The contemporary social conditions of inequality for the participants were entrenched in ongoing traumatic events, and, as shown in previous research findings, were also related to things such as assimilatory policies that led to the loss of land, the decades of incarceration of Aboriginal children, and the high levels of child sexual abuse, sexual assault and domestic violence in many Aboriginal communities (Haskell & Randall, 2009).

In terms of the overall findings, however, the ILCSD model does not accommodate women’s roles as women, partners and mothers, and the subsequent influences on their experiences of substance use and pregnancy. As shown in these research findings, these influences included pervasive experiences of sexual abuse and violence throughout their lives, their responsibilities as protectors and leaders in their family, their deferral of resources and opportunities for the benefit of their families, partners and/or children, and their roles as the often
sole-parent. These influences need to be further contextualized to acknowledge the differential and substantive impact legislations stemming from the process of colonization have had specifically for Aboriginal women. Failure to acknowledge these women-centered determinants can have devastating impacts. A women-centered approach to health (Fahy, 2012) on the other hand, is informed by women’s lives and experiences, and places them at the center of services and activities. A women-centered approach is responsive to women’s needs, and works to eliminate engendered health inequalities and is therefore essential to understanding the social determinants of substance use among young Aboriginal women. In summary, it is clear from the research findings that the social contexts and life experiences of young Aboriginal women who use alcohol and drugs are complex. In addition, the findings support the need for a more specific, women-centered model of the determinants of substance use for pregnant-involved women.

Also demonstrated in this research project is that women’s perspectives on these determinants are paramount to informing evidence-based models of substance use. In life history interviews, additional data on the complexity of factors influencing their lives was revealed. In addition, as the first research project to explicitly ask pregnant-involved young Aboriginal women to create their own social determinants of substance use model, new insights were obtained. Specifically, through the mapping exercise, women identified determinants that both contribute to and detract from their overall wellness, while also being able to demonstrate the interconnected and complex relationship among the determinants of substance use. Taken together the findings of this study provided the opportunity to propose a new social determinants of health model in this dissertation informed using survey data, life histories, and how women actually understand the intersections of social determinants in their lives.

Findings from this study, and the identification of the need for a women-centred model to guide efforts to support substance use among pregnant-involved young Aboriginal women, represent an important shift in the literature. Although narratives reflecting great sources of strength and support among young Aboriginal mothers were prominent in the qualitative components of this research and key to understanding their health and wellbeing, there continues to be a lack of attention to strengthening the positions of women as mothers, with most policy in this area instead favouring a deficits approach strictly from the point of view of the rights of the child (Greaves et al., 2004). Certainly, the CIRCLES maps made clear that the supports needed for women’s wellness were not in competition with the supports needed for the wellness of their
children and their families, but rather mutually supportive. In traditional Aboriginal communities, women were the heart of the communities and this continues to be true, with many women explicitly recognizing the importance of their role in contributing and influencing the next generation (Halseth, 2013). Others have called for efforts to support the health and wellness of young Aboriginal mothers who use substances because they are not only critical for their health as individuals, but for the revitalization of families and communities (Halseth, 2013). As such, it was apparent that the overall findings from this research project, and the SDW model should necessarily focus on how to support these women’s wellness, rather than focusing on pathologizing and negative discourses which have been pervasive in research, policies and programs concerning Aboriginal mothers and substance use. As such, the SDW model is a model of the social determinants of wellness to support this shift in discourse around this topic towards a strengths-based, supportive dialogue with women themselves.

The SDW model shows the intersectional, nested and complex relationships between the distal, intermediate and proximal determinants of wellness for pregnant-involved young Aboriginal women who have a history of substance use, within the socio-political context of colonialism, residential school history, intergenerational trauma and resilience. The SDW model provides a response to previous calls for a holistic, women-centered, trauma informed approach to wellness among young Aboriginal women (Place, 2012) to acknowledge and attend to the dynamic interplay between the social, political, economic and cultural experiences and disparities of pregnant-involved young Aboriginal women. As shown in the SDW model (Figure 17, p. 151) it is paramount that interventions and policies to address substance use among young Aboriginal women explicitly attend to supporting women’s strengths and wellness, the maintenance and growth of the mother-child bond and of women’s family units as a whole. Additionally, the SDW model reflects the need for trauma-informed approaches that will be essential to conducting any type of work with young Aboriginal women. Finally, the SDW model reflects previous research findings that urge action at the national and provincial levels through inter-sectoral collaboration to oppose racism, create culturally relevant education curricula, support housing initiatives, and invest in adult education, child care, affordable housing and the eradication of poverty (Allen & Smylie, 2015; NCCAH, 2010) to address the root causes of inequitable health and social outcomes for Aboriginal women and their families.

The SDW model makes an important contribution to the field by providing an important shift in understanding substance use among pregnant-involved Aboriginal women. While
previous addiction models, including the *Indigenist Stress-Coping Model* (Walters & Simoni, 2002), discuss the direct causes of substance use, they fail to acknowledge the contexts which can be seen as the “causes of the causes”. What was overwhelmingly clear from this research project’s findings, however, was how important these contexts are to fully understanding substance use among pregnant-involved young Aboriginal women. Also made clear by this research project’s findings was how a failure to acknowledge these influences decidedly limits any further action on improving the lives of Aboriginal women, their children and their families. Calls for understanding Aboriginal health issues, particularly those of women and children, from a social determinants of health perspective continue to be made by researchers in this field (Greenwood & De Leeuw, 2012). From this perspective, the major contribution of the *SDW* model is that it makes explicit a model for understanding the social determinants of substance use among pregnant-involved young Aboriginal women that can be used to inform future research, policy and programming to make a real difference in the lives of Aboriginal women, their families and for generations to come.

**Implications for Future Research**

This research project provided new insights into understanding the social determinants of substance use among pregnant-involved young Aboriginal women, but it also raised further questions requiring further research.

The *SDW* model presented in this dissertation should be shared with young Aboriginal mothers and stakeholders. One option for testing the model might be to present it to young Aboriginal mothers who have a history of substance use or important stakeholders as a pre-made CIRCLES map, and to invite them to make changes and provide feedback as necessary. Additionally, the *SDW* model could be used to inform data collection with specific measures of the model’s elements to allow for testing of the nested relationships between determinants depicted in the model. Regardless of the method used, further testing of the model with broader populations is necessary to inform its further development, refinement and applicability for representing the social determinants of substance use among pregnant-involved young Aboriginal women and impacting changes in health care policy, provision and practice.

While the findings from this study provide further support for previous research that shows intergenerational trauma, and contemporary trauma experiences, as strong detractors of maternal and child health from the perspective of young Aboriginal mothers (Roy, 2014; Smith, Varcoe &
Edwards, 2005), it also highlighted some important future directions in research. Future research with Aboriginal women who have experienced historical and contemporary trauma but have not used substances could offer further important insights into buffers against different social and health pathologies. Research with these women could contribute to identifying factors related to resiliency responses as well as resistance strategies, and factors that support healthy coping strategies and buffer the impacts of trauma histories on communal, familial and individual wellness.

Similarly, conducting research across generations could provide further insight to not only the intergenerational perpetuation of harm and its cumulative effects with contemporary trauma experiences, but also into factors involved in intergenerational healing. As this research was cross-sectional in nature, it was difficult to accommodate the fluidity of intersectional identities which are determined and changed over time and place (Grace, 2014). Future research that is longitudinal will also be important to providing a richer understanding of how women’s lives evolve according to the intersecting influences in their lives at a given moment.

While the quantitative research findings provided important information on some social determinants of substance use among pregnant-involved young Aboriginal women, it fell short in several areas, highlighting the importance of a mixed methods approach that necessarily contextualizes findings within the lived experiences of women themselves. The quantitative findings on their own were inadequate for understanding the drivers of inequality in women’s lives, the trajectory of women’s lives in relation to substance use and pregnancy and mothering experiences, and understanding women’s own agency in supporting their own and their family’s health and wellness. In addition to providing context to the quantitative findings, the major contribution of the qualitative findings was in situating and identifying women’s agency and self-determination at the core of understanding the social determinants of substance use among pregnant-involved young Aboriginal women. Future research to further understand the impact and interconnectedness of the “causes of causes” that adds to the dearth of contextualized and rich understandings of the social determinants of substance use during pregnancy, and the role Aboriginal mothers play in their own and their family’s health, is clearly warranted.

Additionally, further examination of other determinants, like racism and social exclusion and self-determination is warranted to further understand the social determinants of substance use among pregnant-involved Aboriginal women (Allen & Smylie, 2015).
The findings from this research project also provide support for conducting research from an intersectionality perspective. In particular, women discussed non-linear and intersectional relationships between the social determinants of substance use during pregnancy, and emphasized that their lives were influenced in complex ways through these intersectional relationships. Women specifically appreciated the ability to map their social determinants on circles, so as to depict these non-linear and non-hierarchical influences in their lives, and future data collection methods should aim to accommodate these intersectional perspectives. The use of circles and nested and interconnected relationships was also in keeping with Indigenous knowledge which stresses the holistic perspective, and understands holistic wellness as when there is balance between the emotional, physical, spiritual and mental components of a person’s life. This perspective was consistently reflected in women’s understandings of the social determinants of health where no one determinant could be understood without its connections to other aspects of their lives. As such, it is clear that the priorities set out by the FNHA are very much in keeping with the findings from this study, and their plan represents an important guide for future research with Aboriginal women (FNHA, 2013).

Despite previous research focusing on substance use during pregnancy, by expanding this research project’s focus to include women’s life experiences before, during and after pregnancy a more holistic and contextual understanding of women’s experiences with substance use, pregnancy and mothering was possible. It is evident from this project’s findings that limiting research specifically to the prenatal period is inadequate to capture the complexities involved with the behaviour of substance use during pregnancy. Women’s experiences with both substance use and pregnancy occur within, across and relative to multiple and complex life contexts that require further attention, and due diligence must be paid to understanding women’s life histories beyond the reproductive period.

Finally, this research was conducted with a relatively small sample of Aboriginal women in British Columbia, Canada. Future research that is conducted with larger and more diverse samples of women, will contribute to generating more generalizable findings. Research that prioritizes women’s voices can clearly lead to new insights into how to support their needs, and their perspectives should be honoured and their histories foregrounded in any future research on women-specific drivers of inequality. Additionally, interactive, power-sharing techniques, such as the CIRCLES maps, for data collection that allow women to share traumatic experiences in safe contexts (by allowing for the externalizing of experiences and reducing the barriers to
expression), appear to be a promising way for research on stigmatizing topics with pregnant-involved young Aboriginal women.

**Implications for Programs and Policy**

Women shared their lives to impact policy. In fact, many women explicitly stated that they wanted policy changes to be made based on better understandings of their lives and their challenges and successes, and that they wished they would be consulted in regards to decisions that impact their lives and their wellbeing. The findings from this research project provide important insights into directions for programs and policies that serve young Aboriginal mothers who use substances. In particular, the findings from this study make it abundantly clear that substance use among pregnant-involved young Aboriginal women must be understood within the historical, social and political contexts within which they emerge. Policies and programs that do not acknowledge these contexts will not only prove ineffective, but will contribute to stigmatizing, marginalizing and racialized discourses, and unresponsive and unsafe services and policies (Smith, Varcoe & Edwards, 2005). Relatedly, the findings of the study also support the work of others who have demonstrated that substance use among pregnant-involved young Aboriginal women is not a root cause of poor health and social inequalities (Smith, Varcoe & Edwards), but a response to social, political and historical inequalities. Therefore, policies and programs that target the health behaviour of alcohol and drug use to the exclusion of these other factors, will be inadequate in supporting women’s, and subsequently their families, healing and wellness. Foregrounding Aboriginal women’s explanations of the root causes of their substance use during pregnancy represents an important, necessary and overdue paradigm shift for maternal-child health policy and programming for Aboriginal mothers (Marcellus et al., 2014; Roy, 2014; Smith, Varcoe & Edwards).

A paradigm shift is also needed in how child safety is conceptualized and supported. An overarching theme from this research project was that separating mothers from their children has devastating impacts for both. Although child safety must be a top priority, supporting the mother-child bond and connection, in a safe environment, is beneficial for women as well as their children. The findings from this study make clear that the interests of the mother and child should not be understood as in competition, a perspective that has also been advocated by others (Greaves et al., 2014). Policies and programs that support both mothers and their children are needed to support the mother-child bond, the health of women and children respectively, and to prevent the intergenerational perpetuation of harm on account of traumatic family separations.
This research project makes clear the importance of addressing substance use among pregnant-involved young Aboriginal women from a social determinants of health perspective. More specifically, it provides support for including Aboriginal-specific determinants of health when looking at health issues among young Aboriginal women. Increasingly, there has been a call for interventions and practices designed to foster and enhance the health and well-being of Aboriginal families to engage with holistic concepts of health, moving beyond the bio-medical realms to instead address and focus on the social determinants (Greenwood & De Leeuw, 2012). However, as explained by Greenwood and De Leeuw, “these broad contexts require collaborations across and between sectors and disciplines” (p. 383), and collaboration across sectors, from education to child welfare to justice and housing will be required to address inequities in social determinants.

An overall shift is occurring in British Columbia in terms of public health services. Reassuringly, the discourse and strategies for public health in the province have shifted explicitly towards addressing upstream determinants of health from a population and health equity perspective (Ministry of Health, 2013). In BC’s Guiding Framework for Public Health released in 2013, it is stressed that there is an urgent need for action on the social determinants of health, many of which are outside the jurisdiction of the health system (Ministry of Health, 2013). In fact, the report references the Tripartite First Nations Health Plan as an example of partners coming together to work towards health equity for First Nations and Aboriginal Peoples in BC through addressing a wide range of health determinants. This is an important acknowledgement as a clear impediment to supporting Aboriginal women and children’s health from a social determinants perspective has been a lack of inter-sectoral collaboration to address the causes of inequality and health inequity that often fall outside of the traditional jurisdiction of ‘health’. While it is encouraging that these linkages are being made in the FNHA, there is a need for this type of collaboration at all levels of government in Canada to create long-lasting impacts on issues of health equity for pregnant-involved young Aboriginal women who use substances, and for other marginalized populations in general.

Although this guiding document in BC has some very welcome directions in it, where it falls short is its emphasis on supporting specifically “at-risk pregnant women”, and First Nations and Aboriginal peoples, in its bid to promote health equity. While theoretically these are both good things, there are also some issues worth considering. As seen in these research findings, women with multiple vulnerabilities during pregnancy are often dealing with many complex
issues before, during and after pregnancy. By focusing resources exclusively on the prenatal and post-partum period, public health providers are continuing to provide disjointed support where root causes of vulnerability will likely not be addressed, and the concept that women’s health is only of import when carrying a fetus is reinforced (Lupton, 2012). Further to this, by continually identifying First Nations or Aboriginal status as part of a list of social determinants of health, the historical, political and social contexts that lead to health inequity for many Aboriginal peoples in Canada is at best diluted, and at worst, forgotten. Additionally, this type of approach is counter to this research project’s findings that young Aboriginal women are not passively marginalized and vulnerable, but are actively participating in self-determination and self-assertion of their own and their family’s wellness. These efforts should be highlighted and supported, while pursuing systemic changes at the policy level to prevent continued harms through the welfare, housing, and child and family services systems.

In addition, in keeping with the findings of this study as well as previous research findings (Poole, Urquhart & Talbot, 2010), non-judgemental, decolonizing, and harm reduction approaches to services and interventions have been identified as the most supportive for pregnant-involved Aboriginal women (Kelly, 2013). Culturally safe health and social services are also clearly indicated for attending to Aboriginal women’s needs, particularly in the context of traumatic life histories, unresolved grief and loss, racism and sexism that contribute to the oppression of Aboriginal mothers (Roy, 2014). Further to this, is a the need to acknowledge harm reduction approaches particularly in the complex area of substance use during pregnancy, and the findings support the need to move away from traditional success indicators that are binary and exclusively abstinence based, as others have suggested (Marcellus et al., 2014). Instead, the findings of this study support the fact that women are often dealing with a myriad of intersectional influences in their lives that need to be addressed in a holistic way to support their wellness.

In particular, poverty was identified throughout the findings as a major source of and contributor to experiences of harm in women’s lives. Systemic changes (including policy change, human rights recognitions, integrated care and health services, harm reduction programs and approaches) made in collaboration with Aboriginal women and communities are needed to address this inequity from a political perspective. The downstream impacts of the colonial process, including access to traditional healing practices, increased knowledge and exposure to cultural practices and history, support for self-determination of Aboriginal communities, and
equitable access to land, resources and supports are required to meaningfully support young Aboriginal mothers who use substances and their families.

Strengths and Limitations

The major strength of this research project was its use of convergent mixed methods to develop a more complete understanding of how social determinants influence the lives of pregnant-involved young Aboriginal women who have experiences with substances. Both the quantitative and qualitative studies provided partial insight into this topic, while the integration of these findings allowed for a more nuanced, evidence-based, and woman-informed understanding. Sampling from the Cedar Project for both the quantitative and qualitative studies allowed for a more robust integration of the findings, along with some other strengths and limitations associated with this sample population.

The Cedar Project’s criterion for defining Aboriginal Status was any individual who self-identified as Metis, Aboriginal, First Nations, Inuit, and status and non-status Indians. This was an important strength of this data set since most research in this area has not included Aboriginal women, not only because women and children are often overlooked in research, but also because women who do not fit into research-defined and federally-derived categories of “Indian” are often not included in data collection which is often limited to Status Indians or First Nations populations (Big Eagle & Guimond, 2009; Bourassa et al., 2004). This type of self-identification, therefore, was more inclusive and was also in keeping with post-colonialism approaches in research.

Women who participated in these research studies were not all currently pregnant at the time of data collection. However, as demonstrated in the findings, for many women, being pregnant was not necessarily a defining life event for them. In addition, the findings clearly showed that the social determinants of substance use identified by women often had impacts across their life course, while addiction was often a life-long condition regardless of use. As such, by having spoken with women in various life contexts and timelines in relation to their substance use and their involvement with pregnancy, the findings supported a more complete and contextual understanding of the social determinants of substance use among pregnant-involved young Aboriginal women while also highlighting their stories of resilience, strength, and recovery. Additionally, the Cedar Project represents a very specific population of urban Aboriginal teens and young adult women who have been or are involved in substance use. The
findings based on young Aboriginal women who contributed to this research project may not be
generalizable to other Aboriginal people or other populations that use drugs.

The quantitative study had several strengths. This data set consisted of variables that to-
date have not been collected for examining substance use among pregnant-involved young
Aboriginal women. For example, data surrounding foster care involvement, residential
schooling histories, and sexual abuse questions. It is precisely the inclusion of these types of
contextual measures that provided a more culturally appropriate and nuanced understanding of
this issue and that made this dataset particularly well-suited for this research study.
Additionally, the Cedar Project Partnership actively maintains the quality of their data. They
attempt to minimize any reporting bias through the extensive training of their Aboriginal
interviewers, assurances of confidentiality and availability of support services. The project also
makes use of two full time statisticians to oversee the maintenance of the data set and to advise
on data analysis issues with respect to using the data. In addition, the Principal Investigator of
the Cedar Project who oversaw data collection, was a member of the supervisory committee and
provided oversight of the quantitative analysis.

The quantitative study had several limitations. First of all, as this was a secondary data
analysis, there was no control over the questions that were asked in the baseline questionnaire
and analysis was limited to previously collected data. Additionally, recruitment for the Cedar
Project was non-random, and there is a possibility that the snowball recruitment methods used
were biased toward particularly vulnerable young Aboriginal women, or perhaps toward more
socially connected young Aboriginal women using drugs. There was no way to determine non-
response bias for this study. The sample characteristics, however, can potentially be used to
provide an indication of this bias. The questionnaires were based on self-report, and there is a
possibility of under-reporting due to the illegal and stigmatizing nature of many of the questions.
As detailed in the data collection, however, the Cedar Project staff makes special efforts to
provide a safe and trusting environment, and to assure confidentiality and a non-judgmental
environment for participants in an effort to minimize these biases. Additionally, the cross-
sectional design of this study means that causal associations could not be made, and the limited
focus of the population under study means that generalizations to the general population of
young Aboriginal women could not be made. Finally, women included in this analysis were
defined as ‘pregnant-involved’ if they had ever experienced a pregnancy. Within this definition
there is great variation as to these women’s experiences of pregnancy and subsequent
participation in mothering. In addition, it is unclear if women in the study used drugs and/or alcohol during their pregnancies. However, this analysis still provided important insight into the social contexts of the life experiences of women who have experiences with pregnancy as well as drug and/or alcohol use.

In the qualitative study, as not all women were currently pregnant, there may have been recall bias when women reflected on their experiences with substances and pregnancy. In particular, the mother may have under- or over-reported her use of substances depending on the outcomes of her pregnancy. However, since the research purpose was to understand the contextual factors of these women’s life experiences, rather than how much drugs and/or alcohol they consumed specifically, this is of minor concern. Additionally, while pregnancy was a main focus of this research study, women’s life experiences before and after pregnancy were also relevant to identifying contextual influences, and therefore speaking with women at different points in their experiences with pregnancy provided a richer variability to the data. Further to this, many of the topics covered in the interviews are illegal or stigmatizing and that may have dissuaded participants from discussing these topics or to under-report. Establishing trust with the participants as well as assuring women of privacy measures that were taken, in addition to confidentiality policies, were strategies used to limit this bias.

Finally, a convenience sampling approach was used to recruit women to participate in the qualitative study. The sample, therefore, represents women who were willing to share their stories. In addition, the experiences of women in this study were shaped by the historical factors and the policies that influence Aboriginal people in the province of British Columbia, and therefore the findings might not be generalizable to other jurisdictions. However, the insights of this study may be helpful in guiding critical analyses of policy implications and future research with other populations.

As the CIRCLES mapping activity has never been used to collect data before, there is no previous research to support its ability to generate data. Although the provided structure of the maps may have limited women’s abilities to fully represent their experiences in a different manner that felt more natural to them, the variability in the patterns evident in the way women completed the task suggests that the structure allowed for some flexibility. The detailed and nuanced findings of this study support the use of the mapping exercise as graphic elicitation strategy. In particular, the mapping not only helped women understand the complex intersecting factors influencing their lives, but also to talk about them in nuanced ways. In addition,
feedback from women on the exercise indicated that they enjoyed the mapping process and thought it supported them in describing factors influencing their lives in a coherent way. Women viewed the maps as a significant representation of their lives and most of them requested copies of their maps.

The credibility of the qualitative findings was ensured through several strategies. When women returned for their follow-up interview, they were provided with a summary of their first interview. At this point, they were able to correct any mistakes, and add or remove any information they felt pertinent. At this time, the researcher was also able to clarify any confusion she may have had with understanding the woman’s story. Additionally, the CIRCLES mapping exercise doubled as a member checking exercise. As women contemplated using the provided buttons the researcher had generated from her interpretation of the woman’s first interview, they also commented on whether that was an accurate interpretation/influence in her life. Finally, at the end of the mapping exercise, women were asked to share their overall interpretation of their final CIRCLES map, as well as what they wanted other people (including the researcher, service makers, policy makers and society generally) to understand about their maps, as well as their lives as a whole. In terms of analysis, the researcher received input and support from her supervisory committee on the coding framework, data analysis and transcript reviews, as well as regular conversations with her supervisor. Further to this, the analysis and findings were shared with the Cedar Project Partnership, as well as with the researcher’s Aboriginal mentor for feedback and input.

The researcher is not of Aboriginal descent and this may have had an impact on the data collection and analysis process. Having an Aboriginal mentor to guide the research questions, data collection process and the interpretation of the findings was an important aspect of this research project. In addition, the researcher received guidance from Aboriginal study coordinators and the Cedar Project Partnership throughout the research process. The researcher is a woman and a visible minority, so this may have made her more aware of and more able to identify stories of oppression based on sexisms or racisms based on her own experiences. Every effort was made to prioritize women’s opinions and voices; however both the life histories and CIRCLES maps must be understood as having been collaboratively created by women and the researcher.
In working with Aboriginal women, earning women’s trust was an important consideration. One important strategy was being introduced to women through a member of the Cedar team who women trusted and with whom they already had an established relationship with prior to this research project. The study team member was available to women throughout the interview, as well as afterwards if debriefing was needed or if they had any questions or concerns. In addition, the researcher made explicit to women that they were in control of the interview and that they were under no obligation to discuss any topics that they were uncomfortable with or did not want to share. During interviews, it was evident that some women had discomfort with sharing certain stories and the researcher made every effort to minimize this discomfort by not pressuring women to share more than they were comfortable, and by continually checking in with women to confirm if they wanted to continue discussing a difficult topic, or to continue with the interview as a whole. When women returned for the follow-up interview, the researcher asked if and how they would like to review the summary of their first interview. Women either chose to read the summary themselves, have it read to them by the researcher, or declined to review it at all, citing that they did not want to hear their life story.

As the researcher, I became immersed in women’s stories and felt a great deal of empathy for them and the hardships that they had endured and survived. It was particularly difficult to hear women’s stories about trauma and violence, which were often quite graphic and upsetting. In addition, when disclosing these stories seemed to upset women, I was often overcome with guilt that I had caused women harm or re-traumatized them by conducting the interview. Self-care and debriefing with the Cedar Project Coordinator who intimately knew the participants was an important aspect of this research, whereby I could share my feelings with her and get insight into my complex emotions related to hearing women’s stories, while she could also follow-up with women to provide them with additional support as needed to minimize any harms from participation. For many women, however, sharing their story was visibly cathartic, and I took the duty of bearing witness to their testimonials as an important responsibility. I have done my best to honour these stories through a faithful summary of their testimonials reported here in this dissertation.

During this research journey, I learned so much from both my mentor and from women. Most relevantly, I learned how important it is to be open to different perspectives and ways of knowing, and to practice humility. By approaching this research project with the perspective that my mentor and women would serve as the experts on the topic and their own lives and
understandings, I was able to gain a new perspective on not only substance use during pregnancy, but also about the challenges, successes and resilience of Indigenous women that would not have been possible through a different approach. In addition, through this journey, I have become even more aware of the privileged position I have as a researcher, and I hope to work further towards using this privilege to participate as an advocate and conduit for positive change in the lives of women and their families.

**Conclusion**

This research project is an important contribution to understanding the social, historical and political contexts of substance use among pregnant-involved young Aboriginal women. Importantly, these findings overwhelmingly reject the un-informed notion in much of the rhetoric on this topic that substance use during pregnancy is simply the result of lifestyle choices by a morally flawed race of women. On the contrary, by honouring women’s voices and experiences, this research revealed the incredible strength, resilience and compassion that persist among a population that has been repeatedly, and shamefully, failed by their society.

The views, experiences and vision for change of Aboriginal mothers must be recognized and brought to the foreground of maternal and child health policy. In particular, substance use among pregnant-involved young Aboriginal women must be understood from within their unique and intersectional historical, social and political contexts, and policies and programs need to be responsive to theirs and their family’s needs. Further research and policies are needed to help support Aboriginal mothers’ strengths, resiliency factors and, ultimately, their wellness. This research project proposes a new women-centered model of the determinants of substance use for pregnant-involved women that accommodates and attends to Aboriginal young women’s complex life experiences at the intersections of the many influences in their lives. This model supports a holistic approach to health, and explicitly attends to supporting women and their family’s strengths and wellness.
References


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Canadian Centre on Substance Abuse (CCSA) (2012). Essentials of... trauma-informed care. Ottawa: The Canadian Network of Substance Abuse and Allied Professionals.


Duff, P., Shoveller, J., Chettiar, J., Feng, C., Nicoletti, R., & Shannon, K. (2014). Sex work and motherhood: Social and structural barriers to health and social services for pregnant and
parenting street and off-street sex workers. *Health Care for Women International*, 1-17
doi:10.1080/07399332.2014.989437


The First Nations Information Governance Centre (FNIGC) (2012) *FNIGC Data Online – Alcohol and Drug Use First Nations Youth*. This information is reproduced and distributed on an “as is” basis with the permission of the FNIGC.


## Appendices

### Appendix A Quality Appraisal Checklist for Quantitative Studies

Checklist (NICE, 2009)

<table>
<thead>
<tr>
<th>1.1 Is the source population or source area well described?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Was the country (e.g. developed or non-developed, type of health care system), setting (primary schools, community centres etc), location (urban, rural), population demographics etc adequately described?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.2 Is the eligible population or area representative of the source population or area?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Was the recruitment of individuals, clusters or areas well defined (e.g. advertisement, birth register)?</td>
</tr>
<tr>
<td>• Was the eligible population representative of the source? Were important groups underrepresented?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.3 Do the selected participants or areas represent the eligible population or area?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Was the method of selection of participants from the eligible population well described?</td>
</tr>
<tr>
<td>• What % of selected individuals or clusters agreed to participate? Were there any sources of bias?</td>
</tr>
<tr>
<td>• Were the inclusion or exclusion criteria explicit and appropriate?</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>2.1 Selection of exposure (and comparison) group. How was selection bias minimised?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How was selection bias minimised?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.2 Was the selection of explanatory variables based on a sound theoretical basis?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How sound was the theoretical basis for selecting the explanatory variables?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.3 Was the contamination acceptably low?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Did any in the comparison group receive the exposure?</td>
</tr>
<tr>
<td>• If so, was it sufficient to cause important bias?</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>2.4 How well were likely confounding factors identified and controlled?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Were there likely to be other confounding factors not considered or appropriately adjusted for?</td>
</tr>
<tr>
<td>• Was this sufficient to cause important bias?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2.5 Is the setting applicable to the UK?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Did the setting differ significantly from the UK?</td>
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</table>

<table>
<thead>
<tr>
<th>3.1 Were the outcome measures and procedures reliable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Were outcome measures subjective or objective (e.g. biochemically validated nicotine levels ++ vs self-reported smoking −)?</td>
</tr>
<tr>
<td>• How reliable were outcome measures (e.g. inter- or intra-rater reliability scores)?</td>
</tr>
<tr>
<td>• Was there any indication that measures had been validated (e.g. validated against a gold standard measure or assessed for content validity)?</td>
</tr>
</tbody>
</table>

<p>| 3.2 Were the outcome measurements complete? |</p>
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were all or most of the study participants who met the defined study outcome definitions likely to have been identified?</td>
<td>Were all or most of the study participants who met the defined study outcome definitions likely to have been identified?</td>
</tr>
<tr>
<td>3.3 Were all the important outcomes assessed?</td>
<td>Were all the important outcomes assessed?</td>
</tr>
<tr>
<td>- Were all the important benefits and harms assessed?</td>
<td>Were all the important benefits and harms assessed?</td>
</tr>
<tr>
<td>- Was it possible to determine the overall balance of benefits and harms of the intervention versus comparison?</td>
<td>Was it possible to determine the overall balance of benefits and harms of the intervention versus comparison?</td>
</tr>
<tr>
<td>3.4 Was there a similar follow-up time in exposure and comparison groups?</td>
<td>If groups are followed for different lengths of time, then more events are likely to occur in the group followed-up for longer distorting the comparison. Analyses can be adjusted to allow for differences in length of follow-up (e.g. using person-years).</td>
</tr>
<tr>
<td>3.5 Was follow-up time meaningful?</td>
<td>Was follow-up long enough to assess long-term benefits and harms?</td>
</tr>
<tr>
<td>- Was it too long, e.g. participants lost to follow-up?</td>
<td>Was it too long, e.g. participants lost to follow-up?</td>
</tr>
<tr>
<td>4.1 Was the study sufficiently powered to detect an intervention effect (if one exists)?</td>
<td>A power of 0.8 (i.e. it is likely to see an effect of a given size if one exists, 80% of the time) is the conventionally accepted standard. Is a power calculation presented? If not, what is the expected effect size? Is the sample size adequate?</td>
</tr>
<tr>
<td>4.2 Were multiple explanatory variables considered in the analyses?</td>
<td>Were there sufficient explanatory variables considered in the analysis?</td>
</tr>
<tr>
<td>4.3 Were the analytical methods appropriate?</td>
<td>Were important differences in follow-up time and likely confounders adjusted for?</td>
</tr>
<tr>
<td>4.6 Was the precision of association given or calculable? Is association meaningful?</td>
<td>Were confidence intervals or p values for effect estimates given or possible to calculate? Were CIs wide or were they sufficiently precise to aid decision-making? If precision is lacking, is this because the study is under-powered?</td>
</tr>
<tr>
<td>5.1 Are the study results internally valid (i.e. unbiased)?</td>
<td>How well did the study minimise sources of bias (i.e. adjusting for potential confounders)?</td>
</tr>
<tr>
<td>- Were there significant flaws in the study design?</td>
<td>Were there significant flaws in the study design?</td>
</tr>
<tr>
<td>5.2 Are the findings generalisable to the source population (i.e. externally valid)?</td>
<td>Are there sufficient details given about the study to determine if the findings are generalisable to the source population? Consider: participants, interventions and comparisons, outcomes, resource and policy implications.</td>
</tr>
</tbody>
</table>
### Quality Appraisal Checklist for Qualitative Studies

**Checklist (NICE, 2009)**

<table>
<thead>
<tr>
<th>Theoretical approach</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. Is a qualitative approach appropriate?</strong></td>
</tr>
<tr>
<td>For example:</td>
</tr>
<tr>
<td>• Does the research question seek to understand processes or structures, or illuminate subjective experiences or meanings?</td>
</tr>
<tr>
<td>• Could a quantitative approach better have addressed the research question?</td>
</tr>
</tbody>
</table>

| 2. Is the study clear in what it seeks to do? |
| For example: |
| • Is the purpose of the study discussed – aims/objectives/research question/s? |
| • Is there adequate/appropriate reference to the literature? |
| • Are underpinning values/assumptions/theory discussed? |

<table>
<thead>
<tr>
<th>Study design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. How defensible/rigorous is the research design/methodology?</strong></td>
</tr>
<tr>
<td>For example:</td>
</tr>
<tr>
<td>• Is the design appropriate to the research question?</td>
</tr>
<tr>
<td>• Is a rationale given for using a qualitative approach?</td>
</tr>
<tr>
<td>• Are there clear accounts of the rationale/justification for the sampling, data collection and data analysis techniques used?</td>
</tr>
<tr>
<td>• Is the selection of cases/sampling strategy theoretically justified?</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Data collection</th>
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</thead>
<tbody>
<tr>
<td><strong>4. How well was the data collection carried out?</strong></td>
</tr>
<tr>
<td>For example:</td>
</tr>
<tr>
<td>• Are the data collection methods clearly described?</td>
</tr>
<tr>
<td>• Were the appropriate data collected to address the research question?</td>
</tr>
<tr>
<td>• Was the data collection and record keeping systematic?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trustworthiness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5. Is the role of the researcher clearly described?</strong></td>
</tr>
<tr>
<td>For example:</td>
</tr>
<tr>
<td>• Has the relationship between the researcher and the participants been adequately considered?</td>
</tr>
<tr>
<td>• Does the paper describe how the research was explained and presented to the participants?</td>
</tr>
</tbody>
</table>

| 6. Is the context clearly described? |
| For example: |
| • Are the characteristics of the participants and settings clearly defined? |
| • Were observations made in a sufficient variety of circumstances |
- Was context bias considered

### 7. Were the methods reliable?

For example:
- Was data collected by more than 1 method?
- Is there justification for triangulation, or for not triangulating?
- Do the methods investigate what they claim to?

### Analysis

#### 8. Is the data analysis sufficiently rigorous?

For example:
- Is the procedure explicit – i.e. is it clear how the data was analysed to arrive at the results?
- How systematic is the analysis, is the procedure reliable/dependable?
- Is it clear how the themes and concepts were derived from the data?

#### 9. Is the data 'rich'?

For example:
- How well are the contexts of the data described?
- Has the diversity of perspective and content been explored?
- How well has the detail and depth been demonstrated?
- Are responses compared and contrasted across groups/sites?

#### 10. Is the analysis reliable?

For example:
- Did more than 1 researcher theme and code transcripts/data?
- If so, how were differences resolved?
- Did participants feed back on the transcripts/data if possible and relevant?
- Were negative/discrepant results addressed or ignored?

#### 11. Are the findings convincing?

For example:
- Are the findings clearly presented?
- Are the findings internally coherent?
- Are extracts from the original data included?
- Are the data appropriately referenced?
- Is the reporting clear and coherent?

#### 12. Are the findings relevant to the aims of the study?

#### 13. Conclusions

For example:
- How clear are the links between data, interpretation and conclusions?
- Are the conclusions plausible and coherent?
- Have alternative explanations been explored and discounted?
- Does this enhance understanding of the research topic?
- Are the implications of the research clearly defined?

**Is there adequate discussion of any limitations encountered?**

### Ethics

14. **How clear and coherent is the reporting of ethics?**

For example:
- Have ethical issues been taken into consideration?
- Are they adequately discussed e.g. do they address consent and anonymity?
- Have the consequences of the research been considered i.e. raising expectations, changing behaviour?
- Was the study approved by an ethics committee?

### Overall assessment

| As far as can be ascertained from the paper, how well was the study conducted? (see guidance notes) | ++ | + |
| Comments: | |

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Appendix C Interview Consent Form

The Cedar Project: Stories of resilience and the social determinants of substance use among pregnant-involved young Aboriginal women who use drugs in three Canadian cities

Consent Form

Who is conducting this study?

The Principal Investigator is:
Dr. Patricia M. Spittal, PhD, Associate Professor, School of Population and Public Health, University of British Columbia

The co-investigators in this study are:
Sana Shahram, MPH, PhD Candidate, Interdisciplinary Graduate Studies, University of British Columbia, Okanagan
Dr. Joan Bottorff, PhD, Professor, Faculty of Health and Social Development, University of British Columbia, Okanagan

Sponsor: Canadian Institutes of Health Research

Why are we doing this study?

Little is known about how pregnancy and parenting affects the lives of young Aboriginal women who use drugs. We want to improve support for pregnant and parenting young Aboriginal women. So, we are inviting people like you, have experiences with drug use and pregnancy, to help us learn more about this topic by sharing your life story and experiences with us for up to two meetings. Our goal is to talk with 15-20 women from the Cedar Project total, with 5-7 women from each site in Vancouver, Prince George and Chase.
What happens if you say “Yes, I want to be in the study”?

If you say ‘yes’, here is how we will do the study:

1. We will meet with you at the Cedar Project office (or at a location of your choice if you feel more comfortable) at a convenient time for you to do the study.
2. We will go over this consent form with you, and if you consent to take part in the study, you will sign the consent form.
3. We will record our voices for the rest of the meeting. Your name will not be asked during the talk. The recording will be identified by a unique study code only.
4. We will help you complete a short form with questions about your life like your age, how many kids you have, how you make money, and where you are living.
5. Then, we will ask you to talk about:
   - Your childhood
   - Your drug and alcohol use
   - Your pregnancy
   - Your children
   - How you use services
   - Your family
   - Your partners
   - Abuse events in your life
6. This meeting will last between 1 and 2 hours total. At the end of the meeting, you will have the option to schedule another meeting.

What happens if you say “Yes” to a second meeting?

1. If you agree to a second meeting, we will schedule another time that is convenient for you to meet. This second meeting will also last between 1 and 2 hours total and will also be audio recorded.
2. We will read you a short summary of your first meeting. You will have the chance to make any changes to this summary that you want.
3. Then, we will ask you some follow-up questions to get more detail on your responses from your first talk.
4. Finally, we will help you to make a chart of the things that influenced your life when you were pregnant. We will provide you with a chart, and ask you to place the things you think were important to your life during your pregnancy on the chart. The chart will look like this:

![Chart]

You will be provided with small round buttons that have different things written on them (such as family, violence, healing, etc.), that you can place on the chart wherever you think they
You do not have to use all of the buttons provided, and you can also add your own buttons. While you make the chart, we may ask questions to better understand your chart.

A digital photo will be taken of your final chart. Your name will not be in the picture.

The results of this study will be published in a graduate thesis and may also be published in journal articles and books.

**Is there any way being in this study could be bad for you?**

We do not think there is anything in this study that could harm you or be bad for you. Some of the questions we ask might upset you. Please let one of the study staff know if you have any concerns. Some of the questions we ask may seem sensitive or personal. You do not have to answer any question if you do not want to.

**Will being in this study help you in any way?**

We do not think taking part in this study will help you. However, in the future, others may benefit from what we learn in this study.

**How will your privacy be maintained?**

All documents and recordings will be identified only by a code number and they will be kept in a locked filing cabinet or in a password-protected file on a secure computer. The recordings of the talks will be stored for two years and then destroyed.

Subjects will not be identified by name in any reports of the completed study. Even though your name will not appear anywhere, someone could still maybe guess who you are based on the info in the talks. Your confidentiality will be respected. Information that discloses your identity will not be released without your consent unless required by law.

If you say something that leads the interviewer to think that a youth less than 19 years old is being abused, by law, this must be told to the Ministry of Child and Family Development. If this happens, we will work with you to ensure you are safe.

If you say you might hurt yourself, a Cedar Project nurse will be told. Cedar Project nurses are a part of a board called the British Columbia Registered Nurses Association. They make sure that all nurses in BC do their job in a good way. If you express thoughts of harming yourself, Cedar staff will work with you to make a safety plan. If we cannot agree on a safety plan and Cedar staff knows that you are going to hurt yourself, then they will have to call the local police. The police will bring you to the
hospital so you can receive emotional care. This is a requirement of the professional board that nurses are part of. **Please keep these limits to privacy in mind during the talk.**

**Will you be paid for your time?**

You will be given $40 for your time at the end of each talk. If you bring a person to watch your kid(s) while we talk, we will give them $20 for their time. There will be coffee, tea, water and juice at the meeting.

**Who can you contact if you have questions about the study?**

If you need to know more about this study, please call Patricia Spittal at 604-806-8779 or Vicky Thomas at 1-888-563-0772.

**Who can you contact if you have complaints or concerns about the study?**

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the Research Participant Complaint Line in the University of British Columbia Office of Research Ethics by e-mail at RSIL@ors.ubc.ca or by phone at 604-822-8598 (Toll Free: 1-877-822-8598)
Study Title: The Cedar Project: Stories of resilience and the social determinants of substance use among pregnant-involved young Aboriginal women who use drugs in three Canadian cities.

Participant Consent and Signature Page

Taking part in this study is entirely up to you. You have the right to refuse to participate in this study. If you do not take part in this study, it will not affect your taking part in the main Cedar Project Study.

If you decide to take part, you may choose to pull out of the study at any time without giving a reason and without any negative impact on your access to further services or your continued participation in the main Cedar Project.

• Your signature below indicates that you have received a copy of this consent form for your own records.

• Your signature indicates that you consent to participate in this study.

____________________________________________________
Participant Signature                      Date

____________________________________________________
Printed Name of the Participant signing above
Appendix D Demographics Questionnaire

Participant Code: _______ Interviewer: _______________ Date: ______

1. In what year were you born?

_________________________________

2. What kind of relationship are you in right now?

☐ Legally married
☐ Widowed/Separated/Divorced
☐ Single
☐ Living as married/common law
☐ No response

3. Were you ever taken from your biological parents?

☐ Yes
☐ No (If ‘No’, go to question #5)

4. If yes, how old were you when you first went into care?

_____________ years old

5. How old were you when you first left home and started living on your own?

_____________ years old

6. Have you ever been ‘on the street’ with no place to sleep for more than three nights?

☐ Yes
☐ No

7. Over the last six months, what is the longest period of time you lived at one address?

☐ A few days
☐ Less than 1 month
☐ 1 month to 3 months
☐ 3 months to 5 months
☐ Entire 6 months
8. Where do you live right now?

❑ Apartment  ❑ Squats
❑ Boarding houses  ❑ Street
❑ Hostel/shelter  ❑ Transition houses
❑ Hotel room  ❑ Crack house
❑ House  ❑ No fixed address
❑ Recovery house  ❑ Other (specify: ________________________ )

9. What was the highest level of education that you have received?

❑ None  ❑ Technical school
❑ Elementary (up to Grade 6)  ❑ College/University
❑ Grades 7, 8, 9  ❑ Other (specify: ________________________ )
❑ Grades 10, 11
❑ High school certificate (completed Gr. 12)

10. What is your status?

❑ Status  ❑ Métis
❑ Non-status  ❑ Refuse to identify
❑ Unsure / Can't remember  ❑ Other: ________________________
❑ Inuit
11. What languages do you speak?

- English
- French

- Native dialect

- Other (specify: ________________________ )

12. Do you know if your biological parents attended residential school?

Mom:  ❑ Yes  ❑ No  ❑ Unsure

Dad:  ❑ Yes  ❑ No  ❑ Unsure

13. Do you know if other family members attend residential school?

# of brothers:__________  # of grandfather(s):__________

# of sisters:__________  # of alternate caregiver(s):__________

# of aunts:__________  # of great aunts:__________

# of uncles:__________  # of great uncles:__________

# of cousins:__________  # of great grandmother(s):__________

# of grandmother(s):__________  # of great grandfather(s):__________

14. How many times have you been pregnant?

_____

15. What were the outcomes of your pregnancies?

Preg 1 __________________________________ at age:_____  
Preg 2 __________________________________ at age:_____  
Preg 3 __________________________________ at age:_____  
Preg 4 __________________________________ at age:_____  
Preg 5 __________________________________ at age:_____
16. If you are currently pregnant, how far along is the pregnancy?

______ months

17. If you are not currently pregnant, do you have any living children? (If no, skip to question 20).

If yes, how old is your youngest child?

______ months/years

18. Have you ever had any children apprehended?

☐ No  

☐ Yes:  

☐ Refused to answer

19. Where are your children now?

☐ With me #__________  

☐ In care #__________

☐ With family #__________

☐ Other

☐ (specify):________________________

☐ Refused to answer

20. Have you ever had an abortion?

☐ No  

☐ Yes:  

☐ Refused to answer

21. In your most recent pregnancy, describe your drug use:

☐ Quit  

☐ Reduced  

☐ Same  

☐ Increased  

☐ Refused to answer  

☐ Unsure/don’t remember
22. In your most recent pregnancy, describe your alcohol use:

- Quit
- Reduced
- Same
- Increased
- Refused to answer
- Unsure/don’t remember

23. Have you ever smoked drugs? (ex. Cocaine, heroin, crystal meth, crack)

- Yes
- No (If ‘No’, go to question #25)
- Can’t recall

24. What has been your pattern of smoking over the last 6 months?

- Light- less than daily
- Heavy- once a day or more
- If quit, why?

25. Have you ever injected drugs?

- Yes
- No (If ‘No’ go to question #27)
- Can’t recall

26. What has been your pattern of fixing over the past 6 months?

- Light- less than daily
- Heavy- once a day or more
- If quit, why?

27. In the past 6 months, how often have you had 6 or more drinks on one occasion?

- Monthly or less
- Once a month or more

28. Have you ever been paid by someone of the opposite gender in exchange for sex?

- Yes:
- No: { If ‘No’, go to question #40)
- Unsure/don’t know
- Refuse to answer
29. If yes, how old were you when you were first paid for sex by someone of the opposite gender?

I was ________ years old.

30. Have you ever had any kind of alcohol or other drug treatment?

☐ No: ☐ PROBE: “Not even being in a detox?” If no, why not?

☐ Yes: If yes, what kind? Check all that apply: READ OUT LIST

______________________________
______________________________
______________________________

☐ Detox/Youth detox

☐ NA/CA/AA

☐ Recovery house

☐ Methadone program

☐ Treatment centre

☐ Other

(specify:____________________)

☐ Spiritual healer

☐ Other

(specify:____________________)

☐ Counsellor

☐ Other

(specify:____________________)

☐ NA/CA/AA

31. Are you currently enrolled in any kind of alcohol or drug treatment?

☐ No

☐ Yes: If yes, what kind? READ OUT LIST

☐ Detox/Youth detox

☐ Methadone program

☐ Recovery house

☐ Other

(specify:____________________)

☐ Treatment centre

☐ Other

(specify:____________________)

☐ Spiritual healer

☐ Other

(specify:____________________)

☐ Counsellor

☐ NA/CA/AA
Appendix E Interview Guide
Beginning an Exploratory Interview: (Schensul & LeCompte, 2013)

- Conduct introductions and explain the project
- Make interviewees comfortable by asking how they are, how their day went, how their family is, or some other culturally appropriate small talk
- Assure confidentiality and explain how privacy will be protected
- Tell interviewees their views are very important both to the researcher and to the project and why.
- Ask permission to record interviews by tape and in writing

The following questions serve as a guide for eliciting women’s life stories and experiences with alcohol and drug use as well as with pregnancy. The goal will be to encourage the interviewee to share her perspectives about episodes from beginning to end in the form of a narrative. Where appropriate, further questions will be used to clarify the interviewee’s story and to follow-up on relevant information that comes up in the interview. Women will be consulted as cultural experts on the topics of substance use during pregnancy and the social, political and historical contexts within which these behaviour occur in her community. As such, the following is provided as a loose guide to maintain the flow and focus of the interview, but women’s voices and experiences will be the primary guide in the actual interview setting.

Questions:

Can you tell me a bit about yourself? PROBES: Where were you born? Where did you grow up? Who was important to you in your early life? What was your house like growing up? How many siblings do you have?

Tell me more about your childhood. PROBES: Who took care of you? What do you remember most about your family? Who lived in your house? How do you remember your childhood? Did you feel safe? How did you cope? Who did you lean on?

What are some of your most significant childhood memories? PROBES: Can you tell me how you felt about that when it happened? What are some happy memories? What are some sad memories? What else was happening in your household at that time?
Growing up, did you fit in? PROBES: Did you feel different? What does racism mean to you? What happened? How did it make you feel? In what ways did you feel left out? How did that make you feel about yourself?

Tell me about the first time you remember seeing someone using alcohol or drugs. PROBES: What happened first? And then? Who was there? What activity was taking place? What did you do? Why do you think that happened? What stands out the most to you about that experience? Did your parents/caregivers use drugs or alcohol? How did that affect you?

Tell me about your first experience with alcohol. PROBES: What happened first? And then? Who was there? What activity was taking place? What did you do? Why do you think that happened? What stands out the most to you about that experience? How did you feel?

Tell me about your first experience with drugs. PROBES: What happened first? And then? Who was there? What activity was taking place? What did you do? Why do you think that happened? What stands out the most to you about that experience? How did you feel?

Can you tell me about when you first started living on your own? PROBES: How old were you? What happened first? Why did you leave your home? Where did you go? How did you make a living? Where have you lived since? What has your living situation been like?

What does the word addiction mean to you? PROBES: What do you think of when you hear that? Would you consider yourself addicted?

Why do you think women in your community use alcohol and drugs? PROBES: What are the root causes? What helps someone quit? What keeps them from quitting? How could society help? How do services help women who use alcohol and drugs? How do services hinder women who use alcohol and drugs?

Why do you think women in your community use alcohol and drugs during pregnancy? PROBES: How are some women able to reduce their use or quit? Why are some women not able to stop? Do all women want to stop?

Can you tell me about the first time you found out you were pregnant? PROBES: How long ago was it? How did you find out? How did you feel? What happened? Did you have a partner? How many pregnancies have you had since? How were they the same, or different?
What types of birth control were you using? Why or why not? What about the next pregnancy? How was it the same? How was it different?

**Do you have any living children?** Can you tell me about how having children has **changed your life**? PROBES: How has it changed how you think about yourself? How has it affected your alcohol and drug use?

**How would you describe your relationship with the father(s) of your children?**
PROBES: How did he support you? How did he hinder you? How would you describe your relationship with him? How did he feel about your drug and alcohol use?

**Thinking about your most recent pregnancy, can you describe what a typical day in your life was like?** PROBES: What did you do first thing when you woke up? Where were you living? How did you make money? What did you eat? What services did you use? What services did you need? What challenges did you face? What were your daily demands? How did your other children affect your experience? How were you able to rise above those challenges?

**Can you tell me about how your life changed during your pregnancy?** PROBES: How did you feel? Where did you spend your days? How did your drug and alcohol use change? What were your hopes for your pregnancy?

**In your opinion, what are characteristics of a mother?** PROBES: How has becoming a mother changed you? How do you feel compared to before? What was the best part of the experience? What was the worst part? What do you remember about your own mother? Who did you learn from about how to be a mother?

**Can you tell me about someone or something that really helped you during your pregnancy?** PROBES: Why did that help? Tell me more about that person. Tell me more about the service and why it was helpful. What are some other things that you found helpful?

**Tell me about anything that kept you from getting help or services while you were pregnant.** PROBES: What did you need but you couldn’t get? Who stood in the way of you getting things you needed?

**During your pregnancies, what would you say were your most important needs?**
PROBES: Why did you need that? What else did you need? How did you satisfy this need?
When thinking about alcohol and drug use in your community among women in general, and during pregnancy specifically, tell me about how you think the following things influence these women’s experiences:

Racism

Trauma

Colonialism

Poverty

Residential School

Housing Insecurity

Foster Care System

Food Insecurity

Education System/Schooling

Single Parenthood

Violence

Employment

Sexual Abuse/Rape

Shame/Stigma

Family

Service Providers (Doctors, nurses, police officers)

Cultural connectedness

Being Aboriginal

Childhood experiences

Being a woman

Family

What other things do you think influence women’s alcohol and drug use generally, and specifically during pregnancy and mothering?

Supplemental Questions:

How do you think being poor impacts alcohol and drug use? PROBES: How do you think it impacted your drug and alcohol use during pregnancy? How does it impact access to food and to housing? What are examples of the impacts of poverty in your community? How does it affect women in particular? And mothers?

There has been a link made between sexual abuse and rape during childhood and alcohol or drug use later in life. What is your opinion about that? PROBE: Do you think that is accurate? Why do you think that link exists? Do you see examples of that in your community? How do you think this is linked to sex work?
Why do you think people use alcohol and drugs? PROBES: How do you think people’s childhoods affect it? How do you think colonisation has affected it? How do you think How do you think pregnancy affects women who use alcohol and drugs?

How do you think the general public views women who use drugs or alcohol during pregnancy, or when they have children? PROBES: Why do you think that is? Why do you think they are so focused on pregnancy? What would you want them to know?

How has the government impacted your ability to be a mother? PROBES: What services have they provided? What about welfare or income assistance? How have they helped? How have they not helped? What barriers have they created?

What services have helped you the most during your pregnancy or supported you in being a mother? PROBES: Why did that help? What is your favourite thing about that?

What types of things or people prevent you from getting the services you need or want? PROBES: How has that impacted your alcohol and drug use?

What types of services or people do you think are needed to help pregnant women who use alcohol or drugs in meeting their needs? PROBES: What’s most important about that service?
Appendix F Follow-up Interview Guide

Hello, thank you for agreeing to participate in this second interview. Before we get started, let’s go over your consent form again.

(Read through consent from previous interview and highlight participant’s rights again)

Now I will read out a summary that I have written based on your previous interview. Please correct or change anything as we go along.

(Read summary)

Does this summary accurately represent your first interview?

What would you like to change?

What would you like to add?

Great. Now I’m going to ask you to create what we call a CIRCLES map. The purpose of this map is to allow you to show visually how you think different things have impacted your experiences with alcohol or drugs during pregnancy. These chips are for you to place onto the map.

As you can see, the map has three circles. The closest circle is where you can place things that impacted your life directly during pregnancy. The middle circle is where you can place things that impacted your life during pregnancy by impacting the factors on your inner circle. The outer circle is where you can place the things that you think effect all the other items on your map. You can place chips closer to each other depending on how much you think they are related to each other.

To help get you started, I have written on some of these chips the things I heard in your first interview that you might think have impacted your experiences during pregnancy. I’ve also provided some chips with things other people have identified as having affected experiences of alcohol and/or drugs during pregnancy. You can also use these blank chips to add any things you think are important. I can write on the chips for you, or you can write on them yourself. You are free to use as many or as few of these chips as necessary, and feel free to ask me any questions as we go if anything is unclear.

To get us started, let’s look at the chips I completed based on your first interview.
(Read out the chips one by one and ask the following questions for each chip)

Does “chip contents” represent something you identify as having impacted your experiences during pregnancy? If yes, how? Where would you place it on the map?

If no, why not?

(Continue with the chips based on research findings if participant does not start mapping)

What do you think about the chips provided? How do they compare to your life story?

What other items would you like to add to the map? We can write these on the blank chips for you to add them to the map.

**PROBES during CIRCLES Activity**

- Can you explain why you are placing that there?
- How does that relate to….?

(Once mapping exercise is completed)

Please let me know once you are done making your map.

Can you explain to me in your own words your final map?

How does it relate to your life experiences with alcohol or drug use and pregnancy?

How do you think it might relate to other women with similar life experiences as you?

Thank you so much. This mapping exercise is a new way to conduct interviews. I’d like to ask you a few questions about the activity to see if you liked it or not.

*Evaluation Questions:*

What do you think about this activity? What was confusing or difficult about the map activity?

What did you like about the map activity?

What did you dislike about the map activity?

Did the mapping activity help you tell your story more easily than just interviews? Why or why not?