

Implementation of the Indigenous Youth Mentorship Program

by

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ABSTRACT

Introduction: The Indigenous Youth Mentorship Program (IYMP) is a peer-led health promoting school program grounded in the teachings of Indigenous scholars. IYMP aims to reduce risk factors for obesity and type 2 diabetes and empower Indigenous youth and communities. High school youth mentors provide mentorship and offer younger elementary students healthy snacks, physical activity games, relationship building activities and traditional Indigenous teachings under the guidance of a community-appointed young adult health leader (YAHL). Based on successful pilot testing, the program is being rippled (IYMP team's preferred term for scaling up) to new Indigenous communities. Principal Investigators (PIs) deliver IYMP as a multi-sited community-university partnership (CUP) with 13 Indigenous communities across Canada. The IYMP model allows for community tailoring and flexibility in the delivery of program components. The purpose of this research was to describe the implementation of IYMP and identify the key characteristics involved in implementation at the local and national levels across Indigenous communities. Three studies were done to achieve this aim. The objective of study 1 was to identify the key characteristics of successful implementation in year 1 of rippling, as perceived by youth mentors and YAHLs. The objective of study 2 was to identify the key characteristics of successful implementation as a multi-sited community university partnership with Indigenous communities, as perceived by IYMP Principal Investigators. Finally, the objective of study 3 was to describe the characteristics of implementation of IYMP in year 1 of rippling, in two rural First Nation communities in Alberta.

Methods: This research used a multi-method research design. Study 1 was a focused ethnography. It included the following data generation strategies to capture key characteristics for successful IYMP implementation in schools: field observations, national team meeting notes,

focus groups with youth mentors (n=8) and YAHLs (n=8), and four follow-up interviews. Study 2 was a qualitative descriptive study. It included key informant interviews with Indigenous and non-Indigenous PIs (n=5) to capture characteristics necessary for the success of IYMP as a multi-sited community university partnership. Study 3 was a descriptive case study of program implementation in two Alberta schools. It included observational field notes of program activities and quantitative data from program log forms to describe how the program was delivered and who participated in it.

Results: In study 1, 5 key characteristics were identified as necessary for successful IYMP delivery, as perceived by youth mentors and YAHLs: relationships, communication, community engagement, instilling a sense of ownership, and program supports. In study 2, the overarching theme identified *a posteriori* (that is, derived through reasoning after analysis) as contributing to IYMP multi-sited CUPs as perceived by IYMP PIs was forming a community of practice (CoP). The sub-themes under CoP were shared interest for Indigenous health/wellbeing and social justice, relationships (new and existing), mentorship within the IYMP CoP, and taking a decolonizing research approach. In Study 3, examination of program delivery showed that as IYMP was rippled to communities in Alberta it was feasible to deliver core components (physical activity, healthy eating, relationship building and traditional Indigenous teachings) at each program session. Study 3 found that there were fewer male than female participants in IYMP school communities in Alberta. Communities could be supported to make the program more attractive to males, offer consistent healthy snacks and increase the proportion of non-sedentary activities.

Conclusion: Collectively, the findings of these three studies contribute to the sparse literature available related to implementation characteristics of school-based peer-led Indigenous health

promotion initiatives. As IYMP is rippled to new school communities, building relationships through communication and community engagement to support ownership of IYMP is important. The successful implementation of IYMP as a multi-sited CUP was the formation of an IYMP CoP with academic and community leads who had shared interests in Indigenous health and social justice. The CoP fostered relationships and mentorship within a decolonizing research approach. New IYMP communities may use the results of this research to ensure successful program implementation as the program continues to ripple to new sites. Results may be used to develop and implement new health promotion initiatives in Indigenous communities.

PREFACE

This thesis is an original work by Sabrina Francesca Lopresti. The research project, of which this thesis is a part, received research ethics approval from the University of Alberta Health Research Ethics Board 1 for the project: “Expanding the Circle: A Peer-Led, Resilience-Based Model of Obesity and Diabetes Prevention for Indigenous Youth,” No. Pro00069533, approved January 5, 2017, last renewed November 21, 2019.

This thesis is paper-based and includes three manuscripts in each of Chapters 4-6 that have been submitted for publication to peer-reviewed journals. Chapter 4 has been submitted for publication and is currently under review as Lopresti S., Willows N. D., Storey K. E., McHugh T. L. F., IYMP National Team. “Indigenous Youth Mentorship Program: Key Implementation Characteristics of a School Peer Mentorship Program in Canada.” *Health Promotion International*. All authors assisted in study design. I was responsible for data generation, data analysis and writing the manuscript. NDW, KES, TLFM and IYMP National Team assisted in interpreting the data and manuscript edits.

Chapter 5 has been submitted for publication as Lopresti S., Willows N. D., Storey K. E., McHugh T. L. F., IYMP National Team. “Indigenous Youth Mentorship Program: Essential Characteristics of a Canadian Multi-Site Community-University Partnership with Indigenous Communities.” *Health Promotion International*. All authors assisted in study design. I was responsible for data generation, data analysis and writing the manuscript. NDW, KES, TLFM and IYMP National Team assisted in interpreting the data and manuscript edits.

Chapter 6 has been submitted for publication as Lopresti S., Willows N. D., Storey K. E., McHugh T. L. F., IYMP National Team. “Indigenous Youth Mentorship Program: A Descriptive Case Study of Implementation in Alberta, Canada.” *Rural and Remote Health*. All authors

assisted in study design. I was responsible for data generation, data analysis and writing the manuscript. NDW, KES, TLFM and IYMP National Team assisted in interpreting the data and manuscript edits.

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GLOSSARY OF TERMS

BMI: Body Mass Index

CBPR: Community-Based Participatory Research

CIHR: Canadian Institutes of Health Research

CoP: Community of Practice

CSH: Comprehensive School Health

CUP: Community-University Partnership

FNIGC: First Nations Information and Governance Centre

iKT: Integrated Knowledge Translation

IYMP: Indigenous Youth Mentorship Program

JCSH: Joint Consortium for School Health

Mino-bimaadiziwin (Anishinaabe): “Doing things in a good way”

Miyo-pimâtisiwin (Cree): “Living a good life”

RIPPLED: Scaled-up

UNDRIP: United Nations Declaration on the Rights of Indigenous Peoples

WHO: World Health Organization

YAHL: Young Adult Health Leader

CHAPTER 1: INTRODUCTION

1.1 Background

Globally, the term Indigenous commonly refers to the descendants of the First peoples who resided in places such as North America, Australia, Asia, and Africa during the period of pre-colonization (Allan and Smylie, 2015). According to the United Nations (UN), there are more than 370 million Indigenous peoples worldwide (United Nations, 2016). The UN has recognized the diversity of Indigenous groups and rather than defining the term Indigenous, it has adopted an understanding of the term which includes factors such as self-identification, historical continuity, distinct socio-economic and political systems, distinct languages, cultures and beliefs, including strong links to the surrounding natural environment (United Nations, n.d.). Three groups of Indigenous (also referred to as Aboriginal) peoples in Canada are recognized in Section 35 of the Canadian Constitution Act, 1982: First Nations (referred to as Indians in the Constitution), Inuit, and Métis (Canadian Census, 2016). Due to the unfair and unjust distribution of the social determinants of health (Raphael, 2009), and the lasting effects of colonialism, Indigenous peoples in Canada are economically and socially marginalized and have poorer health status than non-Indigenous peoples for reasons that are mostly outside their control (Beavis et al., 2015; Browne, Smye, and Varcoe, 2005). In 2016, Canada became a full supporter of the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) (UNDRIP, 2008). UNDRIP is comprised of various statements related to Indigenous peoples' rights including, but not limited to, health, traditional medicines and practices, and fair distribution of the social determinants of health (UNDRIP, 2008). Therefore, health promotion initiatives for

Indigenous children uphold the UNDRIP by protecting their right to improved health and traditional cultural practices (Miller, 1996; Pigford and Willows, 2010; Willows et al., 2012).

Comprehensive school health (CSH) approaches, or health promoting schools, have shown promising benefits for Indigenous children (Naylor et al., 2010). These benefits extend beyond improved performance on school tests, but also in overall wellness of students as a result of health promoting school environments and a shift in school culture towards healthy behaviours that mitigate risk factors for non-communicable disease (McKernan et al., 2019; Veugelers and Schwartz, 2010). Indigenous-based education takes a holistic approach and is founded on Indigenous principles and ways of knowing (Tagalik, 2010). When Indigenous children are reconnected to their traditional cultures, a protective effect occurs where health inequities experienced over the life-course are lessened (Auger, 2016). One such health promotion school program that is ground in Indigenous teachings and traditional cultures is the Indigenous Youth Mentorship Program (IYMP).

The Indigenous Youth Mentorship Program (IYMP; formerly the Aboriginal Youth Mentorship Program), is a peer-led healthy living program developed for elementary school children in Canada. It aims to empower Indigenous youth, reduce risk factors associated with obesity and type 2 diabetes, and improve overall health and wellbeing. The theoretical framework guiding IYMP is based on the pedagogical teachings of Indigenous scholars (Brendtro, and Brokenleg, 2009; Kirkness, and Barnhardt, 1991). Its core program components are physical activities/games, healthy snacks, relationship building, and traditional Indigenous teachings. Pilot testing with grade five children found IYMP to be effective at reducing risk factors for obesity and diabetes and improving healthy living knowledge and self-efficacy

(Eskicioglu et al., 2014). Subsequently, IYMP was rippled (the IYMP team's preferred term for scaling up) to new Indigenous school communities in Canada.

IYMP takes a community-based participatory approach to research and is carried out as a community-university partnership (CUP) that is founded on authentic power sharing relationships, trust and mutual respect, and respect for cultural diversity and learning (Williamson et al., 2016). Therefore, IYMP school communities tailor program components and the time of program delivery to best suit their unique contexts. Program flexibility and the tailoring of programs to meet participants' needs are essential for long-term sustainability (Huebschmann et al., 2019; Indig et al., 2018). For IYMP, continued flexibility and tailoring are important to ensure sustainability once the program transfers to full community ownership, which is a long-term goal of IYMP. There is little information about the implementation of school-based health promotion programs developed for Indigenous children. Implementation science is the study of how evidence-based programs are delivered to maximize the intended benefits of the program (Moir, 2018). Research into the key characteristics of program implementation can be used to help CUPs improve program delivery of core components in a flexible way when scaled to new settings and cultural contexts (Moir, 2018). The study of implementation, therefore, bridges the gap between program delivery in theory, and in practice (Moir, 2018). As IYMP is one of the largest multi-sited CUPs in Canada, and continues to ripple to new communities, it is crucial to understand what facilitates successful implementation across diverse Indigenous community settings. By capitalizing on factors of successful implementation, the potential for successful health outcomes is also maximized (Moir, 2018).

1.2 Purpose of the Research

The purpose of this research was to describe the implementation of IYMP and identify the key characteristics involved in implementation at the local and national levels across Indigenous communities. This included exploring perspectives from youth mentors and YAHLs as well as Principal Investigators (PIs) whom are both community and academic leads. The identified results related to the implementation of IYMP will help to support and inform further rippling of IYMP to other Indigenous school communities across Canada. Seven school communities implemented IYMP during the 2016/2017 academic year (year 1) and took part in the data generation strategies that met the objectives of this research. The information gleaned from this research may also inform similar multi-sited CUPs implementing health promoting programs with Indigenous communities.

1.3 Overall Research Design: Multi-method

The implementation of IYMP in year 1 was studied using a multi-method research design. Research design is the overall strategy selected to address a research inquiry and how these strategies may address different components of a study in a cogent and logical way (De Vaus, 2001). Multi-method research designs use two or more qualitative or quantitative methods (Morse, 2003). Each method is conducted separately from the other, but methods are rigorous and results are triangulated to inform the overall study aim (Morse, 2003). Multi-method research design is often used when a series of studies are carried out related to a broad research topic and question. This made it an ideal research design to answer the question of what characteristics were involved in successful IYMP implementation when exploring perspectives of stakeholders at both the local and national levels. To differentiate multi-method design from

mixed-methods research design, the main difference is that in multi-method research design, the methods are completed as their own separate studies, whereas in mixed-methods research, the qualitative and quantitative methods are integrated in the research process (Creswell et. al., 2011). Multi-methods research provides a robust view of research inquiry. Qualitative methods provide context about people's lives, environments and experiences that would not otherwise be understood through the use of quantitative methods alone (Creswell and Poth, 2016). Quantitative methods, such as those used in this study, are used to generate statistical information (e.g., averages, frequencies) about variables of interest (Creswell, 2012). Therefore, to understand the broad picture of IYMP implementation across multiple contexts, a multi-method research design proved to be a robust choice to meet the overall purpose of this research. Each study described in this thesis was undertaken individually but occurred simultaneously. Chapters 4-6 provide in-depth detail of methodology used for each of the three studies that formed part of this thesis.

1.4 Research Objectives

This thesis used multiple methods to satisfy the objectives of this implementation research. The characteristics of IYMP implementation identified in this research will support the following objectives:

- To identify the key characteristics of successful IYMP implementation across Canada in year 1 as perceived by youth mentors and YAHLs.
- To identify the key characteristics of successful Canadian multi-sited CUPs with Indigenous communities, as perceived by IYMP principal investigators.

- To describe the feasibility and implementation of IYMP in year 1 in two rural First Nation school communities in Alberta.

1.5 Thesis Organization

This is a paper-based thesis with an introductory chapter, a literature review chapter that discusses healthy school communities including literature pertaining to CSH and health promotion strategies, benefits of CSH, frameworks for Indigenous school health, and implementation science of health promotion programs in general and within Indigenous contexts. There are then three chapters that meet the three study objectives of this implementation research, followed by the final chapter which is an overview of findings and includes discussion on strengths and limitations of this research as well as implications for policy and practice and recommendations for future research. Chapters 4, 5 and 6 are manuscripts submitted for publication in peer-reviewed journals. Each manuscript had different organization, formatting and citation styles based on journal recommendations, but for the purpose of consistency for this thesis, all citations were changed to APA style.

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CHAPTER 2: LITERATURE REVIEW

2.1 Risk of Obesity and Diabetes in Indigenous Children Due to Health Inequities

Indigenous peoples including First Nations, Métis and Inuit, are the youngest and fastest growing segment of Canada's population. In 2016, there were 1,673,785 Indigenous peoples in Canada, accounting for 4.9% of the total population (Canadian Census, 2016). Between 2006 and 2016, the Indigenous population grew by 42.5% - more than four times the growth rate of the non-Indigenous population over the same period (Canadian Census, 2016). The Indigenous population is demographically younger than their non-Indigenous counterparts due to a shorter life expectancy and higher fertility rates (Statistics Canada, 2018). Indigenous children 15 years or younger, make up 33.0% of the Inuit population, 29.2% of the First Nations population and 22.3% of the Métis population (Statistics Canada, 2018). Indigenous children and youth in Canada experience a disproportionate burden of ill-health compared to their non-Indigenous counterparts leading to health inequities as a result of the loss of traditional Indigenous practices (Miller, 1996; Pigford and Willows, 2010; Willows, 2005; Willows, Hanley and Delormier, 2012).

Indigenous peoples are at a greater risk for lifestyle diseases such as obesity and diabetes as a result of poor nutrition and physical inactivity (Pigford and Willows, 2012). This was evidenced in a study by Turin et al., 2016, that demonstrated the lifetime risk of diabetes at 20 years of age for First Nations peoples is 75.6% for men and 87.3% for women. In contrast, among non-First Nations peoples the lifetime risk of diabetes at 20 years of age is 55.6% for men and 46.5% for women (Turin et al., 2016). The lifetime risk for diabetes was found to be higher in both sexes at all index- ages (20 years to 60 years) for First Nations peoples compared to non-

First Nations peoples over the life-course (Turin et al., 2016). The First Nations Regional Health Survey (RHS 2008-2010) found that a high percentage of First Nations youth were overweight (29.9%) or obese (12.8%) and had a younger age of onset for type 2 diabetes compared to the general Canadian population (FNIGC, 2012). For First Nations youth living on reserve, five girls are diagnosed with type 2 diabetes for every boy (FNIGC, 2012). This increases the risk over the life-course for poorer quality of life and increased morbidity and mortality rates for First Nations youth and children (FNIGC, 2012). Those who develop diabetes have a higher prevalence of co-morbidities negatively affecting health, for example, kidney dysfunction (18%), neuropathy (33.5%), lower limb problems (23%), infections (14.5%) and amputation (2.4%) (FNIGC, 2012).

There are many socio-ecological factors associated with non-communicable disease development including food insecurity which is reported for more than half (54.2%) of all First Nations households (FNIGC, 2012). Eliminating health inequities for children and youth requires addressing the social determinants of health (Allan and Smylie, 2015; Browne, Smye and Varcoe, 2005; Raphael, 2009) using a multi-level socio-ecological approach. Health promotion programs should ideally be culturally appropriate and strengths-based to support a child's development and positive health outcomes (Willows, Hanley and Delormier, 2012). As will be discussed later in this thesis, this makes the Indigenous Youth Mentorship Program (IYMP) an ideal health promotion program to address health inequities experienced by Indigenous children and youth as it empowers them and their communities through strength-based approaches, builds both personal and community resilience, and promotes traditional cultural continuity - a determinant of health for Indigenous peoples.

2.2 Indigenous Peoples and Determinants of Health

Determinants of health are both structural and social, and for Indigenous peoples, uniquely include colonialism, racism, self-governance, culture, language, land, ceremony, and kinship networks (Reading and Greenwood, 2018). The societal structures of social, political and economic systems in Canada have discriminated against Indigenous systems (e.g., Indigenous medical systems, cultural/social systems- ceremonies, matriarchal political systems for many First Nations) communities and individuals through the banning of traditional practices, negatively impacting their health and wellbeing for generations (Reading and Greenwood, 2018). In particular, residential schools were one of the most devastating causes of loss of traditional Indigenous culture, family and community connection, language and traditional practices (Loppie and Wien, 2009; National Collaborating Center for Aboriginal Health, 2016). Colonial practices led to Indigenous peoples' dispossession of traditional lands and colonial policies outlawed traditional cultural practices such as hunting, fishing and trapping which were required for Indigenous peoples to sustain themselves physically, emotionally, mentally and spiritually (Loppie and Wien, 2009). Indigenous authors claim the loss of connection to the land is a major cause of historical trauma experienced by Indigenous peoples (Loppie and Wien, 2009). Chandler and Lalonde (1998) found cultural continuity was one means of mitigating the impact of this historical trauma by reconnecting Indigenous peoples to traditional Indigenous culture and teachings. Cultural continuity includes intergenerational connectedness through whole family connection and the engagement of Elders who pass on traditions (Loppie and Wien, 2009). Wexler (2014) found that culturally grounded ways of knowing strengthen both personal and community resilience (Wexler et al., 2014).

One way to support traditional teachings is through the school setting. Educational institutions can support educational attainment, cultural continuity, health promoting behaviours and quality of life for Indigenous children and communities (National Collaborating Center for Aboriginal Health, 2017). CSH is ideal for supporting a holistic approach to school health based on a multilevel socio-ecological framework. Willows, Hanley, and Delormier (2012) (Figure 1) created a socio-ecological model that demonstrated how many of the risk factors associated with obesity in Indigenous children today are encapsulated within the context of Canada’s history of colonization of Indigenous peoples and are part of the many reciprocal interactions that occur between individual and systemic factors. Therefore, for health promoting initiatives to be effective, consideration of social-ecological factors of influence, from the individual level to the macro level, should be reflected in Indigenous school communities that embrace comprehensive school health approaches.

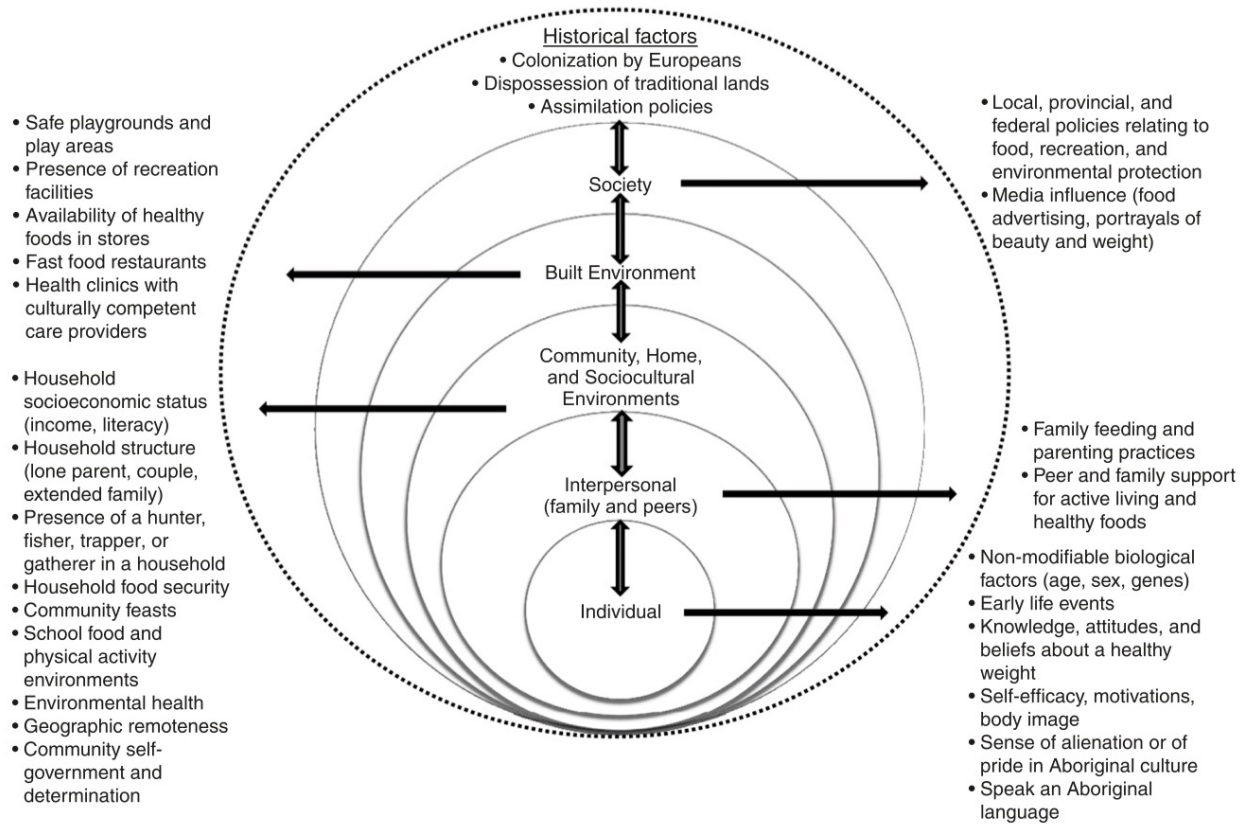


Figure 1- Ecological Model for Understanding Obesity in Indigenous Children

Source: Willows, N. D., Hanley, A. J., and Delormier, T. (2012). A socioecological framework to understand weight-related issues in Aboriginal children in Canada. *Applied Physiology, Nutrition, and Metabolism*, 37(1), 1-13. Reprinted with the permission of N Willows.

2.2.1 Healthy School Communities

Internationally, health promotion professionals recommend focusing on disease prevention and creating environments that support a child's development and positive health outcomes (WHO, 2007; WHO, 1997). The Royal Society of Canada's Canadian Academy of Health Sciences Expert Panel (Royal Society of Canada-Canadian Academy of Health Sciences Expert Panel, Boivin, and Hertzman, 2012) noted that enriched health promoting environments can help protect children from developing long-term negative health outcomes. Marmot (2010) stated that adverse health behaviours and inequalities that are experienced in childhood and adolescence may be carried through the life-course and therefore, opportunities to mitigate these risks are important at an early age. Health and education are strongly connected, as healthy children learn better (Toulouse, 2016) and education is an important social determinant of health (Raphael, 2009). CSH sometimes referred to as 'health promoting school' or 'whole-school approach' for health promotion is an internationally recognized approach that supports child development and was inspired by the Ottawa Charter for Health Promotion (Turunen et al., 2017; WHO, 1986). Health promotion uses a multi-strategy approach (enable, mediate, and advocate) in 5 action areas: build healthy public policy, create supportive environments for health,

strengthen community action for health, develop personal skills, and re-orient health services (Turunen et al., 2017; WHO, 1986). Health promoting schools have been adopted in European countries, Australia, New Zealand, the United States, Canada and other countries globally as a means of promoting a culture of wellness within and outside of school through the use of four components: social and physical environment, teaching and learning, policy, and partnerships and services (Joint Consortium for School Health, 2018; Storey et al., 2011; WHO, 1997). In addition, CSH promotes community health because children become change agents who promote healthy behaviours outside of the school environment and in their home environments (Epstein, 2011; Langford et al., 2015; McKernan et al., 2019). The benefits of the CSH approach are numerous and include strengthened family and social relationships, improved lifestyle behaviours such as physical activity levels and dietary habits, and improved academic achievement (Langford et al., 2015; Veugelers and Schwartz, 2010). Studies have shown CSH also reduces aggressive behaviours in students and improves the general psychosocial environment of the school, thereby reducing risk for adverse health outcomes (Bonnell et al., 2013).

When taking a CSH approach, peer mentorship has been shown to promote positive lifestyle behaviours among students (also known as mentees) such as increased fruit and vegetable consumption, increased levels of physical activity, and reduced consumption of sugar-sweetened beverages and sweet foods (Ronsley et al., 2013; Santos et al., 2014). Additionally, improved social skills, self-esteem, and social responsibility were found among older students who acted as peer mentors (Santos et al., 2014). In a recent school-based intervention in the United States, health mentors delivered health education to fifth-grade classrooms in two schools with mainly African American or Hispanic children in each school (Narayanan et al., 2019).

Positive outcomes identified for these children were lowered blood pressure scores and a modest reduction in BMI (Narayanan et al., 2019).

There is evidence that peer mentorship benefits Indigenous school children (Kroes, 2008), as well as non-Indigenous children. A systematic review that explored protective factors for mental health and wellness of Indigenous circumpolar youth through peer-led initiatives, identified community and culture as key protective factors for youth (Macdonald et al., 2013). The review also identified that mentorship with older peers and having positive role models were critical for youth mental health and wellbeing. Having reciprocal social bonds with peers and being responsible for others were identified as positive variables for Alaska Native youth in strengthening both personal and community resilience (Wexler et al., 2014). Three remote First Nations communities of the Tsimshian Nation in British Columbia participated in the Healthy Buddies™ program which used a peer-led approach to increase healthy eating, physical activity, and awareness related to healthy body image for children. The program matched younger students with older “buddies”. Significant reductions in waist circumference and body mass index occurred in both age groups compared to a control school that did not receive the Healthy Buddies™ program (Ronsley et al., 2013). A program outcome was improved self-esteem for “buddies” involved in the program, whereas self-esteem decreased in the control group. Action Schools! BC, also implemented in remote Tsimshian First Nations schools, similarly reported positive results utilizing a CSH approach involving both younger mentees and older peers (Naylor et al., 2010). Action Schools! BC focused on training teachers to develop an action plan to increase duration of physical activity and healthy eating within the school setting which resulted in significant reductions in BMI and improved nutritious beverage knowledge and self-esteem among participating children.

Community involvement was identified as important for promoting sustainability in Action Schools! BC as it created a team of program experts within remote Indigenous communities (Naylor et al., 2010). Peer mentorship provides responsibility and empowerment for youth as they act as role models for their younger peers (Kroes, 2008). By building capacity in youth, communities also become strengthened as youth leaders will one day become leaders in the community. Furthermore, opportunities for Indigenous youth in peer mentorship roles within educational environments encourage youth to complete post-secondary education while also offering transferable work skills (Kroes, 2008).

2.3 Framework for Indigenous School Health

The success of implementing Indigenous school peer-led health programs is profoundly affected by the utilization of school health frameworks developed by Indigenous peoples (Tagalik, 2010). The incorporation of Indigenous concepts such as reciprocity and holism, acknowledgement of colonial impact and community autonomy and capacity building are all important for health promotion programs in Indigenous communities (Atkinson, 2017). Indigenous education researchers recommend that education be decolonized to heal the effects of colonial practices, including the dispossession of lands (Canadian Council on Learning, 2007). One approach to decolonizing Indigenous education is to reconnect peoples to the land through land-based learning including the social relations, knowledge and languages that were derived from land (Wildcat, McDonald, Irlbacher-Fox et al., 2014). Toulouse (2016), states that current improved Indigenous educational systems are founded on building community resilience and social justice movements. Social justice refers to shaping society in a way that is equitable, inclusive, and recognizes power imbalances with a goal of meeting the needs of all groups

through a process that promotes respectful participatory approaches to creating change (Adams and Bell, 2016).

Indigenous school frameworks address Indigenous ways of knowing, being and doing (Martin and Mirraboopa, 2003; Tagalik, 2010). One Indigenous school framework by Tagalik (2010) emphasizes a holistic approach founded on Indigenous principles and relationships at the individual and community levels. In addition, the framework includes cultural identity, collective ownership and self-mastery as important to promote health for children and communities (Tagalik, 2010).

The First Nations Wholistic Policy and Planning Model (Assembly of First Nations, 2007), (Figure 2), illustrates the importance of using a multi-sectoral approach when addressing health inequities, and acknowledging the influence of historical conditions (Canadian Council on Social Determinants of Health, 2015). As there are many variables involved within education systems, a multi-sectoral approach involving collaboration between government and education sectors as well as mitigation of challenges that arise from social and economic factors should be addressed to support student learning and educational attainment (National Collaborating Centre for Aboriginal Health, 2017). The model also indicates that the education systems must take a balanced approach and include spiritual, physical, mental and emotional aspects of living a good life (Iseke, 2010; Marule, 2012). There is evidence demonstrating that when Indigenous concepts of learning are foundational in curricula, the benefits may be seen in increased social cohesion, increased parental involvement and First Nation teacher attraction and retention (National Collaborating Centre for Aboriginal Health, 2017). Therefore, it is important to understand what characteristics are essential when implementing a CSH program in Indigenous school communities.

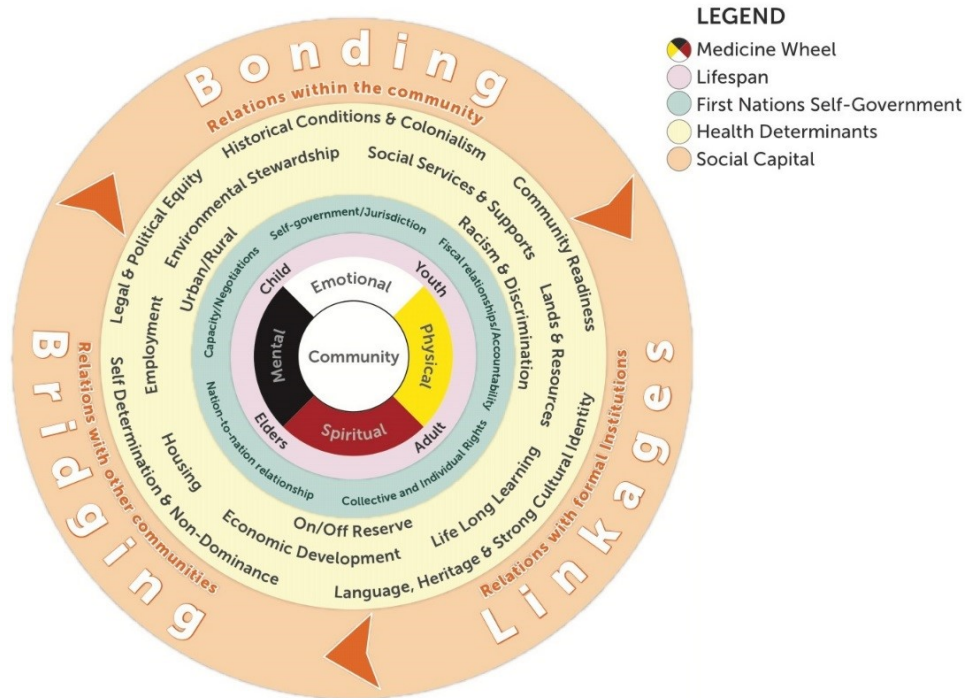


Figure 2- Framework for First Nations Wholistic Policy and Planning Model (2007)

Source: Assembly of First Nations (2007). Reprinted by permission of the Assembly of First Nations.

2.4 Implementation of Comprehensive School Health Programs

Implementation of any program refers to the characteristics of a program’s delivery within a particular setting to maximize the intended benefits of the program (Durlak and DuPre, 2008). This may include program fidelity which is how closely the program was delivered to the planned initiative, the dosage which is the quantity of program sessions delivered, quality referring to whether main program components were included in the delivery, participant

attentiveness during the program, program reach, meaning how many participants took part in the initiative (attendance figures) out of the potential number of participants in the target group and program uniqueness, meaning how a program is distinguished from others in practice (Durlak and DuPre, 2008). To optimize program implementation and acceptability when scaling up, fidelity of core components is necessary, but with flexibility to ensure the program meets participants' needs (Indig et al., 2018; Huebschmann, Leavitt and Glasgow, 2019). These needs may include cultural and social factors as well as individual needs such as literacy, and motivation (Huebschmann et al., 2019). Site-level needs include site priorities, resource capacity, training capacity, context and readiness for change (Huebschmann et al., 2019). The socioeconomic environment of any program setting is important to acknowledge as it may directly impact the success of implementation (Moir, 2018). Facilitating factors for CSH programs to be successfully implemented include collaboration of school staff and leadership (e.g., school principal) (Storey et al., 2011; Storey et al., 2016; Turunen et al., 2017). Other factors identified as important for supporting implementation of health promoting programs include policy, building capacity for supports, engaging stakeholders and positive health behaviours as part of a school's culture (Storey et al., 2011; Turunen et al., 2017).

As Indigenous peoples, and therefore Indigenous school communities, are each unique and have their own needs, cultural traditions and histories (National Collaborating Centre for Aboriginal Health, 2017), implementation science literature in Indigenous contexts is largely limited, as is the understanding of characteristics involved with implementing a CSH program simultaneously across different Indigenous schools (Vujcich, Thomas, Crawford, and Ward, 2018). The scalability of a CSH program to other settings is evaluated by its effectiveness in real world settings, reach and adoption, adherence to core program components, operating costs,

sustainability and fit within local policy contexts (Indig. et al., 2018; Moir, 2018). The study of implementation, therefore, bridges the gap between program delivery in theory, and in practice (Moir, 2018). Recent evidence related to health initiatives in Indigenous communities in Canada, recommended that CSH approaches for Indigenous children ideally should be culturally relevant, promote community autonomy, and be sustainable (Gillies et al., 2020). As will be discussed, during IYMP implementation, community autonomy was promoted as new IYMP schools and program leaders were encouraged to adapt the mode of delivery and core components to ensure optimal flexibility and to meet both community and participants' needs (Huebschmann et al., 2019).

Program implementation is a complex process, especially when the implementation of a program is occurring across different cultural contexts (Turunen et al., 2017). Implementation research then becomes particularly challenging with regards to program replication and transferability as variables are contextually influenced across different settings (Turunen et al., 2017). What is clear with implementation research is that there is no 'one size fits all' solution but rather a need for flexibility among different settings (Turunen et al., 2017). As the literature is already limited with regards to implementation science in general, there is an even greater need to close this large gap in the literature and understand implementation processes specific to Indigenous school contexts where Indigenous determinants of health are strongly tied to reconnecting to culture using a multi-sectoral approach.

2.5 Literature Review Summary

CSH approaches have been adopted globally and proven to effectively promote healthy lifestyle behaviours such as healthy eating and physical activity as well as improve children's

social relationships and family connectedness (Fung et al., 2012; Langford et al., 2015; Veugelers and Schwartz, 2010). Peer-mentorship within a CSH approach further provides benefits through the life-course to both children and youth who act as peer mentors (Hopper, Iwasaki, Walker, and McHugh, 2019; Loppie and Wein, 2009) As Indigenous children, youth and communities are at an increased risk of negative health outcomes due to colonial policies and practices, it is imperative to mitigate risk factors as early as possible. It is important to understand implementation characteristics of CSH programs in Indigenous school communities, in particular, when implementation is simultaneously occurring across multiple school communities such as with the rippling of IYMP. There is no standardized implementation process as variables such as community readiness to implement, school leadership engagement, community capacity and available supports can vary greatly (Turunen et al., 2017). Implementation during scalability of a program should be flexible, community-tailored to best meet the unique needs of each school community, and sustainable to promote positive outcomes over the long-term (Indig. et al., 2018). There is a gap in the literature related to the key characteristics involved in implementing CSH programming in several Indigenous school communities at the same time. Therefore, it is beneficial to determine the key characteristics of successful multi-sited program implementation to contribute to the literature. The IYMP offered a prime health promoting school program example to explore and meet the objectives of this research.

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CHAPTER 3: RESEARCH SETTING – INDIGENOUS YOUTH MENTORSHIP PROGRAM

3.1 Overview of the Indigenous Youth Mentorship Program (IYMP)

Health promoting initiatives, such as IYMP, in Indigenous school communities adhere to holistic school frameworks designed by Indigenous peoples that use multi-level approaches and acknowledge colonial impacts by reconnecting children and youth to the local traditional knowledge and teachings (National Collaborating Centre for Aboriginal Health, 2017). IYMP is generally offered to elementary students (mentees) once per week for 20 weeks as a 90-minute after-school program. IYMP's core components include: physical activities/games, healthy snacks, relationship building activities and traditional Indigenous teachings that are tailored by communities to honour their unique cultural context. It is delivered by youth mentors from local high schools under the guidance of a community-appointed young adult health leader (YAHL), in consultation with traditional Indigenous knowledge keepers and/or Indigenous Elders. The theoretical framework of IYMP is based on the teachings of two Indigenous scholars (Figure 3). Dr. Martin Brokenleg's Circle of Courage focuses on the four universal needs of children and youth that are required to foster resilience and strengthen health promotion: belonging, mastery, independence and generosity (Brendtro, and Brokenleg, 2009). Dr. Verna Kirkness' 4 R's of Learning guide the delivery of IYMP by *respecting* the participating Indigenous children's cultures and traditions, ensuring the program components are *relevant* to Indigenous children's perspectives, promoting *reciprocal* relationships where all parties are empowered, and instilling *responsibility* through participation (Kirkness, and Barnhardt, 1991).

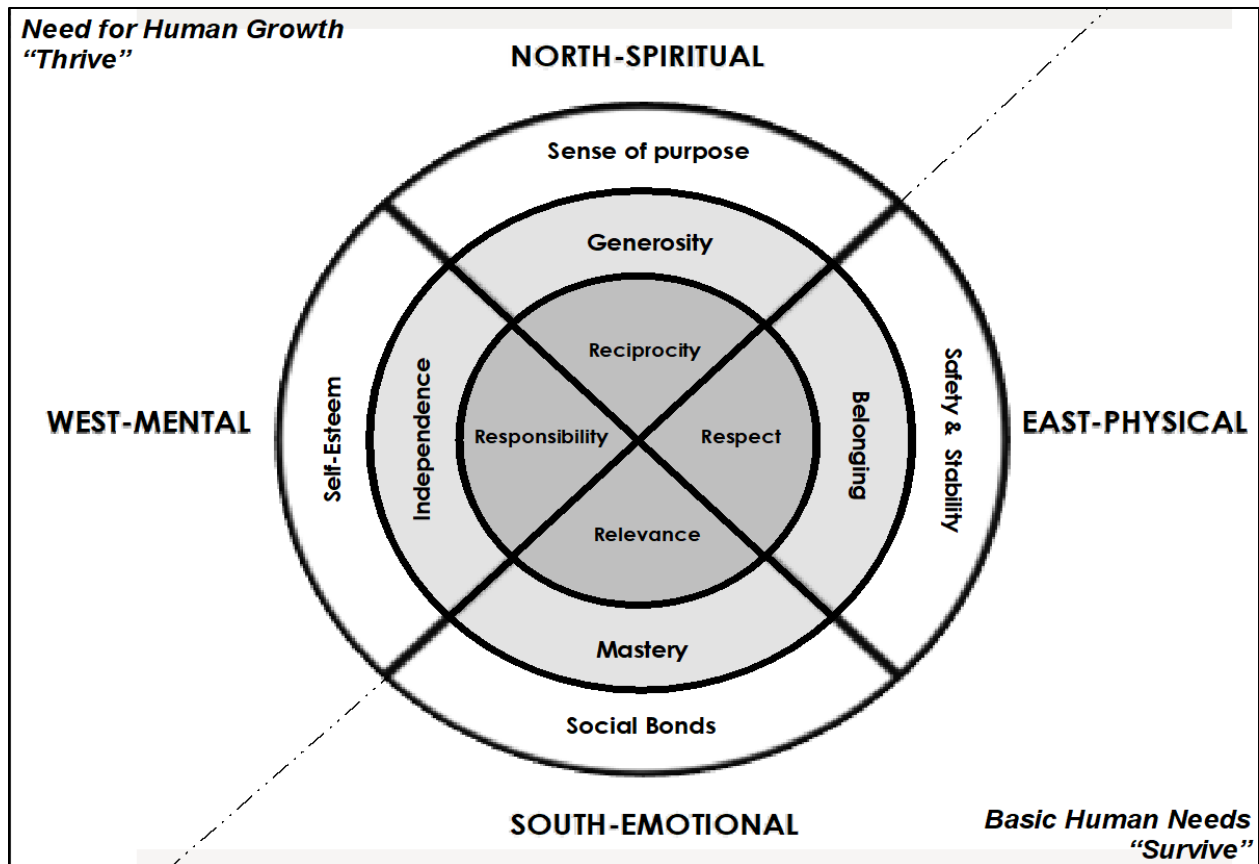


Figure 3. Theoretical Framework Guiding the Indigenous Youth Mentorship Program

Source: Heather McRae & Colleagues (McRae, 2016). Reprinted by permission of Dr. Heather McRae & Colleagues.

The pilot-testing phase of IYMP occurred between 2010 and 2012 in Manitoba. It was delivered as a CUP whereby the participating school partnered with an academic lead at a regional Canadian university who provided resource support (Williamson et al., 2016). It was found to be effective for mitigating increases in children’s weight gain and waist circumference and improving healthy living knowledge and self-efficacy (Eskicioglu et al., 2014). These findings suggested that IYMP might be one strategy for preventing the development of non-communicable diseases later in life. During the years 2012-2018, IYMP was rippled (the

preferred IYMP term to describe ‘scaling-up’) to 13 Indigenous school communities across Canada. Program rippling and research activities were financially supported by a 3-year operating grant from the Canadian Institutes of Health Research (CIHR) Pathways to Health Equity for Aboriginal Peoples - Component 2 (Obesity-Diabetes), and with contributions from Diabetes Canada and PolicyWise for Children & Families. As of 2020, IYMP continues to be rippled across Canada to new CUPs that incorporate a community-based participatory research (CBPR) approach to the local design, implementation and evaluation of the initiative (McHugh, Kingsley, and Coppola, 2013; Israel et al., 2001). To determine if IYMP remained effective in promoting healthy lifestyle behaviours and outcomes when implemented in other Indigenous communities and to explore the factors that facilitated rippling, a national IYMP team was formed that included youth leaders, community leads including Elders and traditional knowledge keepers, research trainees and academics leads with varying levels of work experience with CUPs.

At the first national meeting in August, 2016, held in Winnipeg, Manitoba, Canada, over 90 IYMP team members from communities across Canada came together to meet one another and to launch the CIHR Pathways Component 2 Grant- *Expanding the Circle: A peer-led, resilience-based model of obesity and diabetes prevention for Indigenous youth*. The Indigenous communities partnered in this research were diverse and included rural, remote and urban Indigenous communities that varied in geographical size, histories, traditional cultures, governance and readiness to implement health promotion programming. One of the key principles that guided this research and the IYMP was the Indigenous concept of - mino-bimaadiziwin (Anishinaabe)/miyo-pimâtisiwin (Cree), meaning “Doing things in a good way”/“Living a good life.” At this inaugural meeting, relationships began to flourish amongst all

stakeholders which would eventually be foundational and facilitate the implementation of the IYMP as it rippled.

A unique feature of IYMP is the use of gatherings to strengthen relationships and share knowledge amongst all team members. Gatherings are a traditional form of knowledge sharing, storytelling and relationship building within Indigenous communities (Christensen, Cox and Szabo-Jones, 2018). This knowledge sharing may involve traditional or new knowledge, be informal or formal, and may be intercultural. Generally, IYMP has held three gatherings per year for the national level, regional level and for training purposes. During these face-to-face meetings, intercultural teachings, brainstorming and strengthening of existing relationships take place. Face-to-face meetings are a key component in community-based participatory research (Fletcher, 2003; Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee., 2017). In addition, IYMP hosts regular monthly or bi-monthly teleconferences that team members may join throughout the year. During the 2016/2017 academic year and the initial phase of rippling, teleconferences occurred more frequently as needed, to keep members connected during the planning/ pre-implementation phase.

Another unique feature of the IYMP program is that community decides how to tailor the program to meet their own needs and cultural context. The core program components of nutrition, physical activity, relationship building, and traditional teachings remain the same across different school communities, but the context in which it is shaped and delivered is decided by the community leads involved in IYMP. This approach honours Indigenous voice and takes a decolonizing research approach which is vital when partnering with Indigenous communities (Gaudet, 2018; McGregor, 2018; Williamson et al., 2016).

3.2 Ethical Considerations

IYMP was designed to be ethically guided based on principles of the Kahnawá:ke Schools Diabetes Prevention Program (KSDPP) Code of Ethics and model of decision making (Macaulay, Delormier, McComber, et al., 1998). In addition, the lessons learned through IYMP team members' experiences with CUPs also guided IYMP research, for example, the University of Alberta/Alexander First Nation's experiences with addressing childhood obesity (Pigford et al., 2013). Investigators involved in both of the aforementioned research projects are a part of the IYMP national team and along with other members who have had success in partnership with local Indigenous communities, were able to share their expertise with the broader IYMP team. IYMP principles included *equity* in partnerships between researchers and Indigenous community members, *respectful and reciprocal* relationships so that community needs are met through relevant community-driven research activities, *a strengths-based approach, prioritizing the needs of Indigenous youth and Indigenous ways of knowing, Mino-Bimaadiziwin/miyo-pimâtisiwin*, and *prioritizing Ownership, Control, Access and Possession (OCAP®) principles* for research (First Nations Information Governance Centre, 2019). OCAP® principles supported decisions regarding why, how and by whom data was collected, used, or shared (First Nations Information Governance Centre, 2019).

The decision-making process for all IYMP activities took a non-hierarchical communal approach and involved the formation of local, regional and national advisory circles. *Locally*, community members formed advisory groups that approved research protocols and measures, determined how the program was to be implemented with YAHLs and youth mentors, and culturally tailored the program. *Regionally*, researchers and community members met annually to determine how the program was rippled within a region. *Nationally*, an advisory group that

included traditional Indigenous knowledge keepers and Elders, university researchers from each region, and regional Indigenous representatives ensured IYMP across the multi-sited CUPs followed KSDDP principles and research adhered to Ownership, Control, Access and Possession (OCAP[®]) principles

3.3 Rationale for this thesis

The IYMP pilot study demonstrated the positive outcomes of health promotion programming that embeds healthy living knowledge and traditional Indigenous teachings as a core component (Eskicioglu et al., 2014). Given its successful pilot-testing, it is important to understand how it is implemented when rippled to new school communities (Durlak and DuPre, 2008). This is an identified gap in implementation science literature and in particular, with regards to Indigenous communities, where there is limited understanding related to key characteristics involved when simultaneously implementing a program such as IYMP across multiple Indigenous communities, each one with unique histories and traditions. A recent systematic review (Vujcich, Thomas, Crawford, and Ward, 2018) that explored Indigenous peer-led health promotion programs in Australia, New Zealand, Canada and the United States identified the need to understand the contexts in which successful peer-led health promoting activities occur in Indigenous communities. Indigenous communities in Canada are in rural, remote, or urban areas which can further complicate the implementation process as each community has different infrastructure, needs and resource capacities (Riley, Taylor, and Elliott, 2001). As previously discussed, Indigenous children and youth are at risk for obesity and type 2 diabetes and peer-led CSH approaches have demonstrated a multitude of benefits for the physical health, mental health, emotional health, and social connectedness of these children and youth

(Langford et al., 2015; Veugelers and Schwartz, 2010). The IYMP program continues to ripple to new Indigenous school communities across Canada, and the long-term goal of the IYMP is for it to become fully community-sustainable and community-owned. Therefore, it is important to understand the factors that created successful implementation to help inform new IYMP communities to further promote positive outcomes for Indigenous children and youth.

Additionally, other CUPs with Indigenous communities who embark on similar health promoting initiatives may be informed by this research. The IYMP and this thesis research offered a prime opportunity to study the key implementation characteristics across many Indigenous contexts to contribute to the literature and reduce the large gap identified in this area of research.

My research as a PhD trainee focused on first year implementation and is informed by youth mentors, YAHLs, principal investigators, as well as field observations/notes. My research is one aspect of the greater IYMP research collective, as there are several other research trainees nationally whose research complements that which is outlined in my thesis. Examples of research from some of the other IYMP research trainees to date have explored implementation from the perspectives of IYMP research coordinators, and program leaders, as well as the impact IYMP has had on mentees gathered through research projects such as photovoice in schools across Canada. Collectively, all completed research, and that which is still ongoing, is adding to the implementation science literature in Indigenous contexts, painting a complete picture of successful IYMP implementation and its impacts on participants across different Indigenous communities.

3.4 IYMP Research approach – Community-Based Participatory Research

It is important that community-based research is founded on authentic partnerships developed between researchers and community partners (Castleden, Morgan, and Lamb, 2012; Kajner, Fletcher, Makokis, 2012). Equal power sharing through discourse and action is paramount in CUPs that take a community-based participatory research (CBPR) approach (Gaudet, 2018; Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee., 2017; Williamson et al., 2016). The complexities of engaging in CBPR are vast, in particular, with population groups that have experienced past transgressions through unethical research (Beavis et al., 2015; Browne, Smye, and Varcoe, 2005; Mosby, 2013). Mosby (2013), uncovered research on Indigenous peoples in Canada related to nutrition experiments carried out in residential schools where diets were intentionally restricted to starvation levels resulting in chronically malnourished and vitamin-deficient children. These experiments were carried on Indigenous children without their knowledge or their parents' consent (Mosby, 2013; McGregor, 2018) This is just one example of many, where researchers have caused Indigenous peoples harm resulting in a mistrust of research institutions (Di Pietro and Illes, 2014).

One recognized pathway towards reconciliation with Indigenous peoples is the use of a decolonizing research approach when partnering with Indigenous communities in community-based participatory research (Truth, and Reconciliation Commission of Canada, 2015; McGregor, 2018). Decolonizing research approaches are important for both Indigenous and non-Indigenous researchers (Eruera, 2010; Mooney-Somers and Maher, 2009; Willows, 2019), and disentangle the impacts of colonization primarily by basing research on Indigenous worldviews and knowledge (Martin and Mirraboopa, 2003; McGregor, 2018). Therefore, academics engaged in CBPR may reflect on their own awareness and positionality with regard to the history of

Indigenous peoples as a step towards reconciling past harms (Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee, 2017; McGregor, 2018; Willows, 2013; Willows, 2019). CBPR is an act of reconciliation when it primarily bases research on Indigenous worldviews and knowledge (Lantz et al., 2001; McGregor, 2018).

IYMP used a community-based participatory research (CBPR) approach that included community members in the design and implementation of the initiative (Israel et al., 2001; McHugh, Kingsley, and Coppola, 2013). IYMP was delivered as a CUP whereby schools partnered with an academic lead at a regional Canadian university who provided resource support (Williamson et al., 2016). Decision making was shared by IYMP stakeholders at local, regional and national levels. As such, the IYMP research team consisting of the research trainee, supervisory committee, Indigenous community leads and the IYMP National Advisory Circle which included Indigenous knowledge keepers and Elders, reviewed all study results from this thesis research prior to reporting at conferences and/or in publications.

3.5 Integrated Knowledge Translation

As this research took a community-based research approach, integrated knowledge translation (iKT) guided the engagement of knowledge users which included community co-researchers (CIHR, 2016), who were involved in each phase of the research process from development of research questions to the dissemination of findings. Dissemination of findings is also known as end-of-grant knowledge translation and is encompassed by the iKT approach. A knowledge user is a person who may use the results of the research to inform decisions related to policy, practice or programs (CIHR, 2016). In order to meet the needs of knowledge users, both CBPR and iKT aim for data generated in the research process to be context-sensitive and for

knowledge to be co-created with community partners as co-researchers (Jull, Giles and Graham, 2017). CBPR and iKT are approaches that in this thesis implementation science research made important contributions to enhance the uptake of research findings including end-of-grant knowledge dissemination (Jull, Giles and Graham, 2017). Both approaches make a commitment to working in partnership with communities as well as attempt to eliminate inequities and injustices (Jull, Giles and Graham, 2017). There are slight differences in the motivation of CBPR which is underpinned by social justice principles and social change, while iKT is focused on collaborative and meaningful research that will result in applicable knowledge (Jull, Giles and Graham, 2017). Social justice refers to the equitable distribution of power to meet the needs of all groups in society to promote respectful participatory approaches to creating change (Adams and Bell, 2016). iKT may use applicable knowledge to create social change, but the main motivator for iKT is the development of applicable knowledge not necessarily contributing to social justice (Jull, Giles and Graham, 2017). There also exists a slight difference between CBPR and iKT in social origin where CBPR was grassroots and led by community, while iKT originated within research practices and by funders as a way to engage end-users (Jull, Giles and Graham, 2017). Nonetheless, both CBPR and iKT currently focus on partnerships in research in order to create a safe space where both researchers and end-users as co-researchers can be in agreement. (Jull, Giles and Graham, 2017).

3.6 My contributions to this thesis research

I became involved with the IYMP in the winter of 2016 when the IYMP academic team came together with Indigenous community leads to plan ‘next steps’ after learning the CIHR pathways grant was successful. I assisted in writing the ethics application for this research along

with the research coordinator, attended the first national meeting in Winnipeg, Manitoba in the summer of 2016, attended planning teleconferences, and assisted in program preparation including preparing research forms and folders for Alberta IYMP school communities, and worked with the IYMP national coordinator in 2017 (JS) to send Alberta year-end data securely as JS managed data storage for all IYMP schools. As I had been attending community research meetings with my primary supervisor in one of the IYMP partner First Nation communities since September, 2015, the school's administration were already familiar with me. This facilitated the first day that I arrived to hand out IYMP forms for children as the school's principal brought me to the classroom of the IYMP participants and introduced me to the teachers and students. The principal explained that I was part of the IYMP and would be around the school that year helping with the program implementation. I completed observations at both Alberta schools and generated all data (IYMP logs, field notes, focus groups and interviews), related to the research objectives in this thesis with exception of the Fall 2017 regional meeting notes that were collated by the IYMP national coordinator (JS). I was involved as a participant in that Fall 2017 regional meeting that included community leads, YAHLs, youth mentors, Elders/knowledge keepers, and academic leads. We all provided input related to what went well with the first year of implementation, what could be improved and what was not working well. This was done similar to a World Café style session where multiple tables were set up and each group wrote down their feedback on a large poster sheet that was then put up on the wall and shared amongst the group as a whole. These poster sheets were then gathered by the IYMP national coordinator (JS) and collated into meeting notes and shared across the IYMP team in early 2018. All research results from this thesis were analyzed by myself and then shared and reviewed by my supervisory

committee, the local research committee, and the IYMP national advisory circle for approval or recommendations prior to any reporting at conference presentations or in manuscripts.

3.7 Positionality

As a researcher, it is essential that I try to understand how my personal background has contributed to my drive for social justice and to understand how my experiences have shaped the way I view the world including what biases I may carry (Patton, 2002). I am a white heterosexual Canadian woman of Italian ancestry. I grew up in Southwestern, Ontario as the youngest child in a family with three children, in a very patriarchal environment. In our family home, we spoke Italian, and I grew up having an appreciation for the importance of language in maintaining one's heritage. Although I have never experienced racial discrimination, I have experienced discrimination during childhood based on the socio-economic status of my family. As a family we experienced severe financial hardships, and because of this, I faced several adverse childhood experiences that can come with that type of start in life. I know first-hand what it feels like to experience barriers related to the determinants of health and to be judged and discriminated against for factors that were completely out of my control. At the same time, those early experiences have afforded me qualities such as resilience, grit, and perseverance. At a very young age, I knew that I would change my life's trajectory through education. I made a plan knowing that the path of my journey would not be straight and narrow as it is for many others, but one filled with many winding turns and lessons learned along the way. I always had the same end-goal in mind, and that was to earn a better quality of life through higher education. I am the first person in my family to attend University. I first accomplished an educational milestone and

improved my quality of life when I earned a Diploma in Dental Hygiene and became a Registered Dental Hygienist in 2002.

Those early childhood experiences also shaped me as a clinician. I often advocated for equitable access to dental services for my clients whether through written letters to insurance companies to expand coverage for needed services, by providing free dental hygiene care as a volunteer to those experiencing barriers, or promoting local volunteerism to my dental hygiene colleagues through professional platforms (e.g., Ontario Dental Hygienist Association, *Focus* newsletter). In my practice of dental hygiene, I served diverse clients from all socio-economic and ethnic backgrounds with the majority being new immigrants, older adults and clients who did not speak English fluently. These clients all experienced barriers to accessing care. After ten years as a clinician promoting oral health for overall health at the individual level, I recognized the importance of population health and decided to complete a Master of Public Health degree (2014) as another milestone on my journey. It was during this program I learned in much greater detail than I had ever previously known, about the historical experiences of Indigenous peoples in Canada. To sum it up, I was horrified at what I had learned, intrigued to find out more about this unfortunate truth, and then determined to promote justice and make a positive difference in an equitable way, whether through working in government, in education, or as a researcher. I have a passion for both qualitative research and using research to inform policy and practice that will make a positive difference and promote health at the population level. This, along with my cumulative life experiences has been my motivation for completing this PhD degree.

Research Positionality

Darroch and Giles (2014), stated both critical theory and feminist theories have heavily influenced participatory approaches such as CBPR that have guided this research (Darroch and Giles, 2014; Jull, Giles and Graham, 2017). Paulo Freire was an educator and critical theorist who developed the participatory component of action research and advocated for critical analysis of structural constraints with an aim for social change, where research occurs *with* community members as co-researchers rather than *on* community members (Darroch and Giles, 2014). Critical theory in research recognizes the importance of reflexivity for the researcher to account for ways they may influence the research. Feminist theorists have historically countered dominant theories in human experience and have argued that by shifting away from patriarchal systems or processes, such as colonization, there would be a greater balance of power with those who have been traditionally oppressed (Darroch and Giles, 2014),

Researchers' views about the nature of knowledge (ontology) and the ways of knowing (epistemology) directly influence the ways one views the world and is embedded within the research process (Patton, 2015). Kuhn, 2012, claimed that scientists operate within underlying theoretical paradigms. In the field of social sciences research theory, there are two major philosophical traditions related to the nature of reality including positivist and interpretivist. Interpretivism encompasses the paradigms related to meaning and human experiences (Williamson, 2006). One such paradigm is constructivism and constitutes the way people construct the world around them. In the research conducted within this thesis, I worked within and subscribed to the constructivist paradigm.

Constructivist researchers subscribe to the notion that realities are subjective and allow for participant experiences and voices to shape the research such as that which occurs with a

community-based participatory approach (Williamson, 2006). Guba and Lincoln, (2013) stated that constructivist research is relativist (ontology), subjective and transactional. Relativist researchers reject the positivist ontological view that there is only one reality that exists separate from the subjective influence of the mind. Rather, relativism accepts there are multiple realities constructed by the mind and supports co-creation of knowledge. Some of the methods often carried out within a constructivist paradigm include, but are not limited to, case study, ethnography, participant observation, and phenomenology (Guba and Lincoln, 2013).

Constructivists favour naturalistic inquiry where field work often takes place within the natural setting to account for contextual factors (Williamson, 2006). They take an inductive reasoning approach as opposed to deductive reasoning that is hypothesis-driven (Williamson, 2006).

Although I have been immersed in “IYMP culture” from the implementation planning stage, I am still an outsider to the partnering IYMP school communities. I may, or may not, share some lived experiences with community members in relation to my childhood experiences, but I am not Indigenous and therefore, cannot take an insider perspective. The CBPR approach used within this research allowed for insider perspectives to be shared broadly, shaping the entire research process. This was facilitated by the IYMP local, regional and national advisory circles that allowed for collaboration between Indigenous and non-Indigenous project leads as co-researchers.

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CHAPTER 4- INDIGENOUS YOUTH MENTORSHIP PROGRAM: KEY IMPLEMENTATION CHARACTERISTICS OF A SCHOOL PEER MENTORSHIP PROGRAM IN CANADA

The following manuscript has been submitted for publication and is currently under review as Lopresti S., Willows N. D., Storey K. E., McHugh T. L. F., IYMP National Team. “Indigenous Youth Mentorship Program: Key Implementation Characteristics of a School Peer Mentorship Program in Canada” *Health Promotion International*. Citation style has been changed from Harvard to APA style to maintain consistency in this thesis.

4.0 ABSTRACT

Background: The Indigenous Youth Mentorship Program (IYMP) is a peer-led health promotion program developed for elementary school students in Indigenous school communities in Canada. A local young adult health leader (YAHL) and high school mentors offer elementary students healthy snacks, physical activity games, relationship building activities and cultural teachings. IYMP aims to improve children’s health and wellbeing and empower Indigenous youth and communities. Although IYMP is a CUP, the aim is to transition it to an autonomous community-run program. The purpose of this focused ethnography was to describe the key characteristics of successful IYMP delivery.

Methods: Two focus groups were conducted with 16 participants (8 YAHLS and 8 peer-youth mentors) from seven schools followed by four individual interviews (3 YAHLS, 1 youth peer mentor). Transcripts were analyzed using content analysis. Findings were integrated with IYMP program field observations and notes from IYMP national team meetings.

Results: The five characteristics identified as important for IYMP delivery were a sense of ownership by those delivering the program, inclusion of Indigenous Elders and Indigenous

knowledge keepers, establishing trusting relationships, open communication among all stakeholder groups, including community and academic partners, and adequate program supports in the form of program funding, manuals that described program activities, and national and local gatherings between academic and community partners for sharing ideas about the program and its components.

Conclusions: As IYMP is implemented in more communities and becomes community-owned, program sustainability may be ensured and implementation challenges mitigated by embedding the identified five essential characteristics within the fabric of IYMP.

4.1 INTRODUCTION

Indigenous peoples (First Nations, Metis and Inuit) in Canada have a higher prevalence of non-communicable diseases (NCDs) than non-Indigenous peoples (Beavis et al., 2015; Canadian Census, 2016; Raphael, 2009). Although poor diet and inactivity are some of the immediate determinants of NCDs, the underlying causes are related to unique social and structural determinants of health for Indigenous peoples, such as colonial policies and practices that have created health inequities and led to a loss of traditional Indigenous practices that promote wellness (Miller, 1996; Pigford and Willows, 2010; Willows, 2005; Willows et al., 2012). Addressing Indigenous health inequities requires working together as allies to change underlying structural determinants of health and to eliminate inequities in the social determinants of health, which include social and economic factors that directly and indirectly influence health (Allan and Smylie, 2015; Browne et al., 2005; Raphael, 2009).

To diminish the prevalence of NCDs like type 2 diabetes, health promotion professionals recommend focusing on prevention and creating environments that support a child's

development and positive health outcomes (WHO, 2007; WHO, 1997). The Royal Society of Canada's Canadian Academy of Health Sciences Expert Panel (Boivin and Hertzman, 2012) noted that enriched health promoting environments can help protect children from developing long-term negative health outcomes. Health and education are strongly connected, as healthy children learn better (Toulouse, 2016) and education is an important social determinant of health (Raphael, 2009). CSH is an approach that supports child development and promotes a culture of wellness within and outside of school through the use of four components: social and physical environment, teaching and learning, policy, and partnerships and services (Joint Consortium for School Health, 2018; Storey, Spitters, Cunningham, Schwartz and Veugelers, 2011; WHO, 1997). Similarly, the Indigenous School Framework emphasizes a holistic approach founded on Indigenous principles and relationships at the individual level and community level (Tagalik, 2010). In the Indigenous school context, approaches that promote health for children and communities address Indigenous ways of knowing, being and learning along with self-mastery, establishing a sense of cultural identity, and collective ownership (Tagalik, 2010).

When taking a CSH approach, peer mentorship has been shown to promote positive lifestyle behaviours among younger students such as increased fruit and vegetable consumption, increased levels of physical activity, and reduced consumption of sugar-sweetened beverages and sweet foods (Ronsley et al., 2013; Santos et al., 2014). Additionally, improved social skills, self-esteem, and social responsibility were found among older students who acted as peer mentors (Santos et al., 2014). There is evidence that peer mentorship benefits Indigenous school children (Kroes, 2008). Three remote First Nations communities of the Tsimshian Nation in British Columbia participated in the Healthy Buddies™ program which used a peer-led approach to increase healthy eating, physical activity, and awareness related to healthy body image for

children. The program matched younger students with older “buddies”. Significant reductions in waist circumference and body mass index occurred in both age groups compared to a control school that did not receive the Healthy Buddies™ program (Ronsley et al., 2013). A program outcome was improved self-esteem for “buddies” involved in the program, whereas self-esteem decreased in the control group. Action Schools! BC, also implemented in remote Tsimshian First Nations schools, similarly reported positive results utilizing a CSH approach involving both younger and older peers (Naylor et al., 2010). Action Schools! BC focused on training teachers to develop an action plan to increase duration of physical activity and healthy eating within the school setting which resulted in significant reductions in BMI and improved nutritious beverage knowledge and self-esteem among participating children. Community involvement was identified as important for promoting sustainability in Action Schools! BC as it created a team of program experts within remote Indigenous communities (Naylor et al., 2010). Opportunities for Indigenous youth in peer mentorship roles within educational environments encourage youth to complete post-secondary education while also offering transferable work skills (Kroes, 2008).

The Indigenous Youth Mentorship Program (IYMP) is a peer-led health promotion program developed for elementary school children in Canada. It aims to empower Indigenous youth, reduce risk factors associated with obesity and type 2 diabetes, and improve overall health and wellbeing. Generally offered to elementary students (mentees) once per week for 20 weeks as a 90-minute after-school program, IYMP is centered on three core components: physical activities/games, healthy snacks, and relationship building activities that are tailored by communities to honour their unique cultural context. It is delivered by youth mentors from local high schools under the guidance of a community-appointed young adult health leader (YAHL) in consultation with traditional Indigenous knowledge keepers and/or Indigenous Elders.

A pilot study of IYMP found it to be effective for abating increases in elementary school children's weight gain and waist circumference, and improving healthy living knowledge and self-efficacy (Eskicioglu et al., 2014). These findings suggest that IYMP might be one strategy for preventing the development of NCDs later in life. During the years 2012-2018 IYMP was rippled (the preferred IYMP term to describe 'scaling-up') to 13 Indigenous school communities across Canada. Seven school communities implemented IYMP in January 2017, and took part in the present qualitative study. This study aimed to describe the key characteristics of IYMP implementation as perceived by peer youth mentors and the YAHLs that assisted them during the 2016/2017 academic year. As youth mentors and YAHLs were integral to IYMP program delivery, they were important key informants to discuss the key characteristics to successful program delivery. The identified key characteristics resulting from this research may be used to improve IYMP delivery in existing and new IYMP school communities. In addition, findings may be used to inform other peer-led programs being delivered with Indigenous children.

Research approach

IYMP used a community-based participatory research (CBPR) approach that included community members in the design and implementation of the initiative (Israel et al., 2001; McHugh, Kingsley, and Coppola, 2013). IYMP was delivered as a CUP whereby schools partnered with an academic lead at a regional Canadian university who provided resource support (Williamson et al., 2016). A shared model of decision making based on the Kahnawà:ke Schools Diabetes Prevention Project (KSDPP) guided the research (Macaulay et al., 1998). Decision making was shared by IYMP stakeholders at local, regional and national levels. *Locally*, community members formed advisory groups that approved research protocols and measures, determined how the program was to be delivered with YAHLs and youth mentors, and

culturally tailored the program. *Regionally*, researchers and community members met annually to determine how the program was rippled within a region. *Nationally*, an advisory group that included traditional Indigenous knowledge keepers and Elders, university researchers from each region, and regional Indigenous representatives ensured IYMP followed KSDDP and Research adhered to Ownership, Control, Access and Possession OCAP[®] principles (First Nations Information Governance Centre, 2019).

Ethics

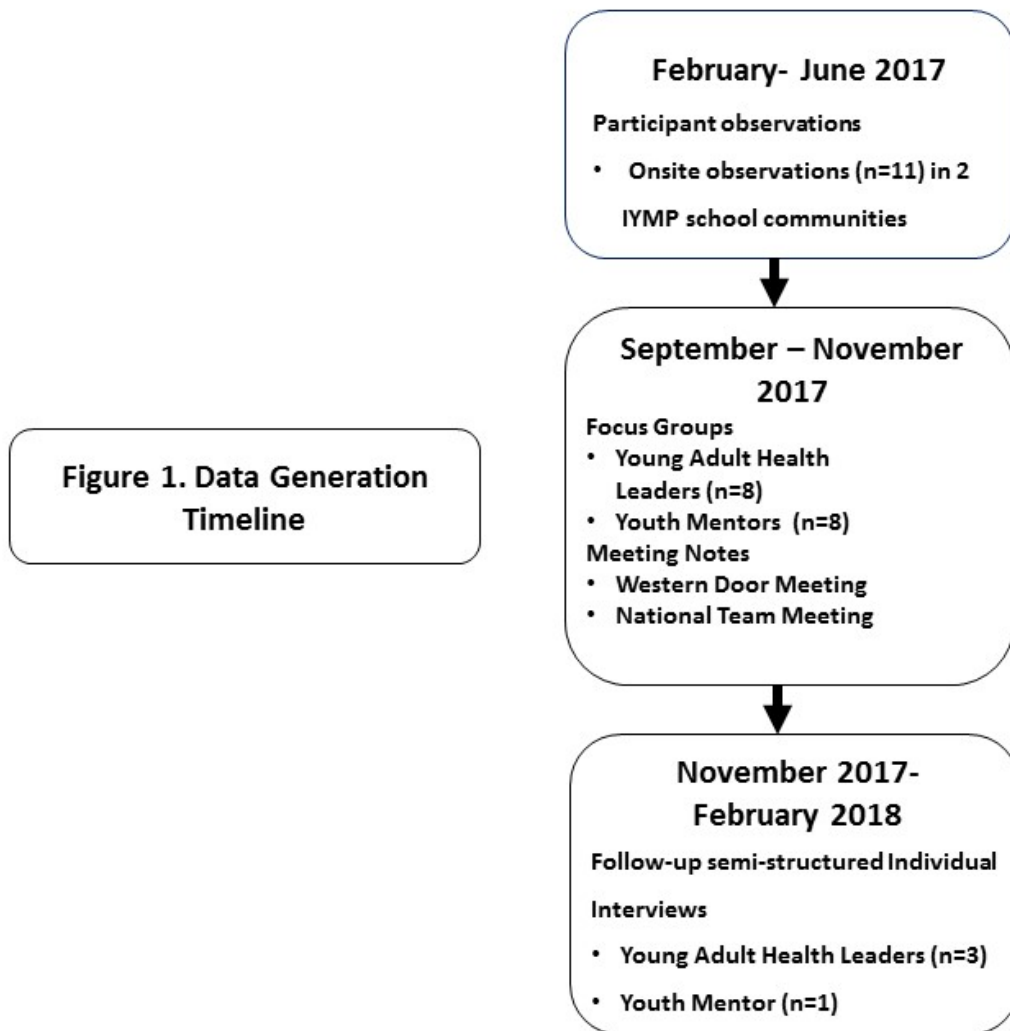
OCAP[®] principles supported all participating school communities in making decisions regarding why, how and by whom data was collected, used, or shared (First Nations Information Governance Centre, 2019). Prior to interviews, informed written consent was obtained from YAHLs and from the parents/guardians of youth mentors. In addition, youth mentors gave their assent to participate. Institutional ethics approval for this study was obtained from the University of Alberta, Research Ethics Board 1 (Pro00069533).

4.2 METHODS

This study used a focused ethnography method as IYMP was studied in a cultural context (i.e., school setting) during a time limited period (Boodhoo and Purmessur, 2009; Creswell and Poth, 2016; Hammersley, 2006). As is the case with focused ethnographies, data were generated from a variety of sources (Hammersley, 2006). These were field notes from participant observations of IYMP afterschool program delivery sessions in two school communities, two focus group interviews, four follow-up semi-structured individual interviews, and meeting notes gathered at IYMP regional and national team meetings (Figure 4). The primary researcher (SL) was a non-Indigenous PhD candidate who had established relationships since 2015 with

Indigenous communities participating in IYMP. SL had built rapport with participants through IYMP national team meetings and teleconferences from the planning to implementation stages, which allowed for a genuine exchange of views and perspectives (Heyl, 2001).

Figure 4. Study data used to identify the key characteristics of IYMP implementation, and the data generation timeline.



Data generation and participants

Field observation notes were made at IYMP afterschool program delivery sessions at two IYMP school communities based on the primary researcher's geographic proximity to them. From February - June 2017 six observations were made in one school and five in the other school to document contextual factors of program delivery such as the setting and engagement of participants with each other and with program activities. Each field observation typically lasted two hours and included program set-up, snack food preparation and clean up.

Sixteen individuals from seven school communities participated in focus group interviews. Focus groups are useful for eliciting participant interaction with participants such as youth who may be hesitant to speak in isolation (Cartmel and Casley, 2014). The focus groups occurred at the Fall 2017 IYMP national team gatherings where participants who had direct involvement with IYMP during first year program delivery were purposefully recruited. This allowed for the inclusion of individuals who could provide a rich and in-depth understanding of the program (Patton, 2002). Eight YAHLs (4 male and 4 female) were in one focus group and eight youth mentors (5 male and 3 female; age range: 13-18 years old) were in the other focus group. The focus group interview with YAHLs lasted 1 hour 48 minutes and the focus group with youth mentors lasted 1 hour and 15 minutes.

From November 2017-February 2018, follow-up semi-structured individual interviews with 3 YAHLs (2 females and 1 male) and 1 female youth mentor from four school communities occurred. Individual interviews ranged in duration from 26 to 52 minutes. These interviews offered participants the opportunity to elaborate upon or clarify findings from focus group interviews (Olson, 2016). The semi-structured interview guides for focus groups and individual interviews were developed in collaboration with the IYMP National team and included questions

related to the perceived key characteristics of IYMP delivery. As an example, participants were asked what factors they perceived as most helpful in program delivery and what advice they would give others delivering the program for the first time. Focus groups and individual interviews were digitally recorded and notes were taken. Interviews were transcribed verbatim and personally identifying information was removed from the transcripts.

Meeting notes were taken at IYMP team meetings where academics, community representatives, youth and traditional Indigenous knowledge keepers and/or Indigenous Elders were present and shared their perspectives on what they thought made IYMP delivery successful. At these meetings, community and academic partners learned from one another and shared implementation strategies. The national team meeting notes were collated and typewritten into a report by the national IYMP coordinator and became available for review for the IYMP team, February 2018. Personally identifying information was removed from the meeting notes.

Data Analysis

Data were analysed using inductive content analysis where the data were coded, categorized and themed manually using Elo and Kyngäs's (2008) three step process: preparation, organizing and reporting. Content analysis is typically used in focused ethnography where textual analysis is done line-by-line (Morse, 1994) The researcher (SL) immersed herself within the data by reading transcripts, meeting notes and field notes several times, followed by open coding in the margins. Codes were then organized into categories and through further interpretation and the abstraction process, themes were created and reviewed multiple times by the research team consisting of the research trainee (SL), supervisory committee, community representatives and the IYMP national advisory circle until consensus agreement was reached

related to the identified themes (Elo and Kyngäs, 2008). The themes were then presented to an Indigenous community research committee as well as the IYMP national advisory circle to derive consensus about their interpretation.

Within this study, triangulation occurred through the review of the data generated from field observations/field notes from different settings, individual and focus group interviews, meeting notes as well as interpretation by multiple researchers which enhanced the rigour of the study (Mayan, 2009). Rigour was further achieved using several verification strategies (Creswell and Poth, 2016). These included member checking by discussing results with community representatives through emails, phone calls, and individual meetings, methodological coherence by ensuring the methods used matched the purpose of the research, collecting and analyzing data concurrently and iteratively, thinking theoretically, appropriate sampling by recruiting participants who were best suited to provide knowledge related to the research question, and prolonged engagement through collaboration with community members and researchers throughout the study (Morse et al. 2002).

4.3 RESULTS

Key Characteristics of IYMP Program Implementation

Five key characteristics were identified as important for IYMP delivery during implementation: building relationships, communication, community engagement, instilling a sense of ownership, and program supports. These themes are supported using direct non-identifying quotes from the transcripts.

Building Relationships

All participants stated the importance of building relationships to facilitate program delivery. These relationships were noted for every level of IYMP, such as the relationships that were established between the university partners and community partners, relationships between YAHLs and the schools and/or community, and the relationships that were built between YAHLs and the youth mentors as well as the youth mentors and mentees through IYMP. A YAHL stated:

I had good relationships with both schools and the education director and also from the Chief and Council [elected community leadership], basically the whole community. So what I did was basically went out and start talking to everybody about this program that I'm running in the school and I was always wondering why some students don't come to school, I notice that they don't come for a couple of days at least and I ask 'what's up', 'what's wrong', like just basic things, keeping in touch with them I guess. Then over time they trusted me now I have their full support. [Participant 4, YAHL]

The relationships formed in the program created a sense of belonging for participants, sustaining enrolment of both youth mentors and mentees. As many participating communities were small, building relationships with program participants helped to support social cohesion outside of the program. A YAHL discussed the benefits of these relationships by saying:

With this mentorship program despite how you feel, you might feel like you don't really want to wake up but once you step inside that program your entire mood will change no matter what, what you're going through, could be depression, that anxiety or suffering through a loss, grieving, or just a break-up, just having to be around those students, or

those kids, the grade four students will lift your spirit up and it will give you a sense of purpose and it will give you a sense of direction in life. Even if you just want to give up.

This will change your mood. [Participant 4, YAHL]

Another YAHL talked about these newly formed relationships spilling out into the community where participants lived, noting:

They're [youth mentors] showing belonging by just being there...to the grade four students just by interacting with them, talking to them and they see each other in the communities and community is pretty small..." [Participant 6, YAHL].

Another YAHL remarked,

The best part for me was getting to know some of the kids. There was, I will tell you this one story, there was this young boy [IYMP mentee] ... And I saw him at a different event outside [outside of IYMP] and he came up to me and I was, I was busy dealing with a lot of stuff and he knew I couldn't go anywhere so he went and got me some bannock [quick bread] and brought it over. [Participant 7]

Some YAHLs mentioned the importance of building upon existing relationships as a way to help cut program costs, particularly in remote communities where the cost of fresh fruits and vegetables can be high. Often these participants through their existing relationships with grocery store managers or school chefs were able to obtain discounts for program snacks or work with those running the school breakfast program to use any left-over foods that same day. A YAHL shared with the others in the focus group what was happening in their community, saying:

I don't know how, what it's like in a lot of the communities but a lot of communities I work with have lunch programs and what we did in [community identity masked] was we worked with the [School name masked] chef who is this awesome guy from way up North and he, we would order the food and the snacks through [School name masked] breakfast program or use their [School name masked] breakfast program leftovers from the day depending on the number of students there as a way that we really cut costs. [Participant 7, YAHL]

Both the YAHLs and youth mentors noted seeing positive changes in student mentees participating in IYMP such as increased participation, formation of new friendships, and increased confidence and self-esteem. There were several instances mentioned where a mentee would sit on the sidelines and watch during the first few IYMP sessions, but after making friends through the program, these children began to join the activities. A youth mentor said, “*She (mentee) wouldn't really participate in the games either in the beginning and then after a while she made friends and started to join in the games more.*” [Participant 8, youth mentor].

Communication

There was a strong emphasis from all participants that communication was essential when implementing the program. This included open communication at all levels within the program, schools, and in the community. When asked what they would tell someone else just joining IYMP to make implementation easier, a participant strongly emphasized:

Communication and persistence [is important]. Everybody, everybody you have to keep your communication open between your, well in our case the university, the high school and the elementary school... [Participant 3, YAHL]. Communication through documents such as

program information sheets or consent forms that were easy to understand by parents, grandparents or guardians facilitated participant enrolment in IYMP. Participant 4 emphasized the importance of using appropriate language in documents “...yeah there were some issues on the wording with the [program information/consent] letters, documents, but I tried to simplify it so much to where I could understand it and where my grandpa could understand...” This finding was also documented in the national team meeting notes: “Simplifying language of survey and consent forms”. Participant 2 [YAHL] discussed the importance of communicating with parents and others in the community about the IYMP aim to improve participants’ health outcomes,

Yeah for these children [mentees] it’s part of diabetes prevention and when we start talking about diabetes prevention in First Nations, Inuit, Métis children, people stand up and listen, but if you just say ‘oh it’s an after school program’ they are just like ‘oh yeah, whatever’.

Community Engagement

Community engagement was noted as key for IYMP where traditional Indigenous teachings were often incorporated within program delivery. Engagement with Elders, traditional knowledge keepers and/or other community members was important for knowledge sharing and necessary for successful delivery of all program components. Participants spoke enthusiastically about the types of activities or the conversations that occurred as a result of engaging traditional knowledge keepers and/or Elders. As the YAHLs shared ideas with each other about what they did to engage community members, one said, “...we had an Elder come in and just talk to the high school students one day just about healthy relationships which was really good...”

[Participant 1, YAHL]. Another YAHL discussed how s/he and the children engaged an Elder who spoke to them regarding cultural protocols for offerings, saying,

We had an Elder...visiting the school and the kids [mentees] brought him into the gym and got him to speak on respecting...um...what was the topic...offerings I think and the protocol in how you would approach someone with your offering/your tobacco.[Participant 6, YAHL]

In many First Nations and Métis communities a gift of tobacco is offered to Elders as a sign of respect when asking for their help, guidance, or protection (Council on Aboriginal Initiatives, University of Alberta, 2012).

Some participants discussed engaging community members to help with activities, some of which included going outdoors to fish and set fishing nets, or having mentees make a drum. A YAHL mentioned that drumming is one way of revitalizing traditional language through song. Another YAHL [Participant 1] said:

We have often brought in like community members for the cultural activities...We made a Circle of Courage poster kind of thing where we would separate into groups and be like what does being independent mean and the kids [mentees] would come up with scenarios and then they would draw pictures and then we brought it all together as a big circle.
[Participant 1, YAHL]

Instilling a Sense of Ownership

Instilling a sense of ownership for the community and those directly delivering IYMP was noteworthy for ensuring program sustainability through increased participant retention of

youth mentors and YAHLs as a result of perceived increases in self-esteem and feelings of responsibility. In some communities where the population tended to be transient, instilling a sense of ownership was especially important. Participant 2 [YAHL] stated,

...it's probably hard to make really deep [connections] when you've grown up in a transient environment [students coming to the school from different surrounding First Nations communities] ... I guess there's not that connection to that place and, and it's harder to run a program when people don't have that connection...And I think when they [youth mentors] start realizing like, 'hey I'm in charge of these children, like somebody believes that I am capable enough to do this right. It starts building on their self-esteem by letting them have that ownership right...

Youth mentors discussed how this sense of ownership contributed positively to their self-esteem. For example, Participant 8 [youth mentor] mentioned, *"I mean it was great...working with kids. It made me feel important. It helped me become more responsible. Helping them...taking care of them."* Participant 5 [youth mentor], stated instilling ownership with mentees also helped with program delivery, *"Yeah, they (mentees) are usually pretty good to help [set-up or clean-up]. That also makes the program easier."* Participant 4 [youth mentor] went on to say, *"Being a youth mentor makes me feel responsible ...it feels amazing and it feels good being a role model. I got to be better with kids...more confident."*

Program Supports

Program supports provided by academic partners during the first year were essential in IYMP delivery. These included funding for program components such as healthy snacks, training

of YAHLs, manuals that described program activities such as suggested activities and games, and national gatherings and local meetings between academic and community partners for sharing ideas about the program and its components. Often the ideas that were shared at the gatherings or meetings would be incorporated by YAHLs into their programs or would be used to train new youth mentors, as stated by Participant 4 [YAHL],

...what I did was I had a little boot camp day and that's just to train the mentors what to expect, what kind of games they [high school mentors] could possibly teach the [elementary] students or if they have any games that they would like to teach....

Another youth mentor [Participant 6] really enjoyed the support of an academic partner who would visit the school during IYMP sessions and share games or activities with them. They exclaimed, "*He [academic partner] would come out sometimes and help out [making program easier to run]. He would think of games on the spot!*" Several participants said they found the IYMP program manual very helpful as a resource that includes program planning forms and information on program components such as identifying healthy foods and physical activities/games. Some participants mentioned the importance of having program funding allocations based on the geographic location of the school, as rural or remote communities have higher costs for fresh foods than urban communities. Participant 2 [YAHL] from one of the more northern communities emphasized the importance of allocating more funds to communities located further from urban centres:

So I think looking at the different programs and where they are located too is looking at what it costs here and what it costs there and making whatever money is given to that community maybe a little bit higher considering where that program is run and what's

available... Like some of those [remote] communities like milk is probably, it's like \$18.00 for a jug of milk. ... when they divide up the money over the five years like take that into consideration, things are just real expensive. Like fruit is like crazy [expensive] up there, like crazy, crazy...

Participant 2 [YAHL] also discussed the importance of continuous long-term funding for program sustainability. This participant said, “...one thing that I would like to see is the sustainability of this program. Where are the funds going to come from to sustain these programs?”

4.4 DISCUSSION and CONCLUSION

This study offers unique insights into the implementation of a school peer-mentorship health promotion program in several Indigenous communities. Five themes highlighted characteristics that aided in the successful implementation of the IYMP as perceived by youth mentors and YAHLs. When rippling (scaling up) IYMP to new communities, the results of this implementation study may be used to mitigate implementation challenges by using the identified key characteristics as a guideline to facilitate program delivery.

Building relationships with all stakeholders, including community and academic partners was imperative during the planning and implementation stages of IYMP, indicating that sufficient time to build trusting relationships among partners is essential. This has been found previously by members of our team working with school communities (Storey et al., 2016). Respectful partnerships between community members and academic researchers establish a base for program success and sustainability (Ho et al., 2006; Potvin et al., 2003). Relationships

between communities also occurred, with communities that had experience with CBPR providing knowledge sharing and mentorship to communities that were new to research.

Community engagement at all levels was also important for IYMP delivery. Community member engagement supported the incorporation of Elders and traditional Indigenous knowledge keepers into the program. These individuals participated in IYMP and facilitated inclusion of traditional teachings into the program including both teachings of health-promoting behaviours and of cultural continuity - “intergenerational cultural connectedness, which is maintained through intact families and the engagement of elders, who pass traditions to subsequent generations” (Loppie Reading and Wein., 2009, p.18). Studies with Indigenous communities have demonstrated the importance of cultural continuity through engagement of community members as a protective factor against negative health outcomes (Auger, 2016; Chandler and Lalonde, 1998; Currie, 2015). The inclusion of Elders and/or traditional knowledge keepers into CSH programs may therefore help mitigate the risk of developing chronic diseases such as type 2 diabetes among Indigenous children by ensuring they develop healthy lifestyle behaviours and a sense of belonging to their culture (Joint Consortium for School Health, 2018). The flexibility of IYMP allowed it to be tailored to community needs, creating a *sense of ownership* among participants. Community ownership and autonomy is a core condition for successful CSH programming implementation and is a mechanism towards IYMP sustainability as the program transitions to sole community ownership (Storey et al., 2016).

Communication was important. Using appropriate language in program communications increased program enrolment and uptake (Nutbeam, 2000). Communities delivering IYMP may use this awareness to ensure that language and reading grade level are appropriate on consent forms and program information forms. Continuous communication, whether through phone calls

or face to face meetings between all partners was essential for helping all parties in the initial implementation of IYMP. *Program supports* included program manuals, training gatherings, national team meetings and equitable funding for communities. The national team meetings fostered a space where community members along with academic partners such as principal investigators, student trainees, and research coordinators fostered pre-existing relationships and created new ones. Stakeholders identified sustainable funding as a long-term challenge to consider when moving the IYMP from a CUP to a community-owned program. Many factors for this transition need to be considered as some communities may be less experienced than others in writing applications to secure program funding. Without long-term funding, programs are not sustainable (Storey et al., 2016).

Strengths of this research included the CBPR approach, with communities having control over study design and implementation, and data generation strategies (Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee., 2017). Several schools had existing CUPs in place and a high level of community readiness to engage in CBPR, which facilitated undertaking research (Storey et al., 2016). On-site field observations that enhanced study rigour were possible due to the close proximity of two Indigenous school communities implementing IYMP to the principal investigators' university. The use of multiple data sources, observations in more than one location and multiple IYMP stakeholders reviewing research findings all contributed to data triangulation, enhancing the credibility of findings (Morse et al, 2002).

A limitation of this research was that only one youth mentor participated in a follow-up interview. Another limitation is that focus group interviews as a data generation strategy have the potential to exclude the voices of those who may not feel comfortable expressing views in a group setting (Olson, 2016).

This study contributes to the literature surrounding implementation related to healthy living programs in Indigenous school communities. For communities currently implementing IYMP, the key characteristics of building relationships, communication, community engagement, instilling a sense of ownership and program supports may be strengthened to maintain and improve program delivery, perhaps resulting in improved health outcomes of children and youth (Eskicioglu et al., 2014). Through this study the importance of peer mentorship was identified with newly formed relationships allowing children to build confidence, helping to make IYMP a success. Peer-mentorship in the IYMP also fostered accountability among peers and provided mentees and youth mentors with peers to listen to them when they were working through personal problems (Hopper, Iwasaki, Walker, and McHugh, 2019). Although this study focused on characteristics of implementation for IYMP through CUPs in Indigenous communities, future studies related to the transition of IYMP to a community-run program are warranted and will provide a wealth of knowledge for stakeholders in multiple sectors of health promotion and research.

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CHAPTER 5- INDIGENOUS YOUTH MENTORSHIP PROGRAM: ESSENTIAL CHARACTERISTICS OF A CANADIAN MULTI-SITED COMMUNITY-UNIVERSITY PARTNERSHIP WITH INDIGENOUS COMMUNITIES

The following manuscript has been submitted for publication and is currently under review as Lopresti S., Willows N. D., Storey K. E., McHugh T. L. F., IYMP National Team. “Indigenous Youth Mentorship Program: Essential Characteristics of a Canadian Multi-Sited Community-University Partnership with Indigenous Communities” *Health Promotion International*. Citation style has been changed from Harvard to APA style to maintain consistency in this thesis.

5.0 ABSTRACT

Background: The Indigenous Youth Mentorship Program (IYMP) is a peer-led health promotion program grounded in the teachings of Indigenous scholars. IYMP is delivered as a multi-sited community-university partnership (CUP) with 13 Indigenous communities across Canada for elementary students. A local young adult health leader (YAHL) and high school youth mentors offer students healthy snacks, physical activity games, relationship building activities and cultural teachings. IYMP aims to improve children’s health and wellbeing and empower Indigenous youth and communities. The purpose of this qualitative descriptive study was to describe the essential characteristics of this multi-sited CUP as perceived by the IYMP principal investigators.

Methods: Key informant interviews were conducted with 5 IYMP principal investigators (2 Indigenous) and analyzed using content analysis.

Results: The overarching theme was forming a community of practice (CoP), where people with a common interest share best practices as they interact regularly. Four sub-themes were shared interest for Indigenous health/wellbeing and social justice, relationships, mentorship and taking a decolonizing research approach.

Conclusion: The essential characteristics that made the IYMP CUPs successful could be used to inform other multi-sited CUPs in Indigenous communities. Those with mutual interests in Indigenous health and partnership with Indigenous communities could consider forming a CoP. The IYMP CoP allowed mentorship to occur across regions. Within a newly formed CoP, relationships and mentorship can be developed through discussion and activities. It is imperative within the CoP to take a decolonizing approach to research and acknowledges the impact that colonial policies and practices have had on generations of Indigenous communities.

5.1 INTRODUCTION

Indigenous peoples in countries with European settler populations such as Australia, Canada, New Zealand, and the United States were subjected to research with Eurocentric values and/or research methodologies that resulted in ethical wrongdoings and power inequalities (Beavis et al., 2015; Browne et al., 2005; Mosby, 2013). Researchers in these countries are increasingly cognizant of the importance of community-based research that results in authentic partnerships between academic and community partners (Castleden, Morgan, and Lamb, 2012; Kajner, Fletcher, Makokis, 2012; Willows N. D., 2019). CUPs that take a decolonizing community-based participatory research (CBPR) approach purposefully attempt to establish power sharing relationships and honor Indigenous approaches to knowing the world (Castleden, Morgan, and Lamb, 2012; Eruera, 2010; Gokiert, Willows, Georgis, Stringer, and Alexander Research

Committee., 2017; Mooney-Somers and Maher, 2009; McGregor, 2018; Williamson et al., 2016). As described by Indigenous scholar, Cindy Gaudet (2018), “Indigenous research methodologies disrupt rigid and individualistic approaches to research whereby researchers attempt to predefine questions, processes, and the contributions of participants, without consideration of relevance, responsibility, or relational accountability.” The complexities of academics engaging in decolonizing health promotion research are vast, and include logistical and ethical challenges, the need for researcher and methodological reflexivity, and uncertainty about how to ensure power sharing (Gaudet, 2018; Kilan et al. 2019; Snow et al., 2016; Willows N. D., 2019).

In Canada, several research protocols have been developed that guide ethical research in Indigenous communities (Kilian et al., 2019; Willows, 2019). Indigenous peoples (also referred to as Aboriginal peoples) in Canada include First Nations, Inuit and Métis (Canadian Census, 2016). Historically Indigenous peoples have been subjected to unethical research (e.g., Mosby, 2013) and more recently, to research that has not always included community members as equal partners in decision-making or knowledge translation processes (Di Pietro and Illes, 2014). Considering the 2015 Truth and Reconciliation Commission of Canada report, reconciliation through research requires researchers to establish a mutually respectful relationship with Indigenous groups as co-researchers (Truth and Reconciliation Commission of Canada, 2015). Reconciliation through research also requires academics to be aware of past research transgressions against Indigenous peoples, acknowledge the harm that has been inflicted upon Indigenous peoples by unethical research, and adopt a new approach to research (Truth, and Reconciliation Commission of Canada, 2015, Willows, 2013; Willows, 2019). To ensure research is ethical and addresses reconciliation, it will ideally be strengths-based, adhere to

principles of social justice, and consider Indigenous worldviews and knowledges (Ball and Janyst, 2008; McGregor, 2018; McHugh, Holt, Andersen., 2015; Pigford et al., 2013).

Reconciliation through research also requires academics to be aware of their own positionality, power and privilege with regard to the history of the treatment of Indigenous peoples in research (Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee., 2017; McGregor, 2018; Willows, 2013; Willows, 2019). Indigenous academic researchers conducting decolonizing research may struggle both cognitively and spiritually to understand more fully their own relationship to Indigenous culture and land (Gaudet, 2014).

Indigenous Youth Mentorship Program as a decolonizing approach to research

Considering the high prevalence of chronic disease experienced by Indigenous peoples in Canada as a result of colonial policies and practices that led to diets high in processed market foods and reduced physical activity, research to prevent obesity and type 2 diabetes in Indigenous children is urgently needed (Willows, Hanley and Delormier, 2012). In 2015, seven principal investigators (PIs) (2 Indigenous and 5 non-Indigenous) and 20 co-investigators from academic institutions and Indigenous communities across Canada were awarded a team grant to support decolonizing CBPR to reduce the risk of type 2 diabetes in Indigenous children through the implementation of the Indigenous Youth Mentorship Program (IYMP). IYMP provides physical activity, healthy snacks, and relationship building activities that honour unique community cultural contexts for children in schools across Canada. It is delivered by Indigenous youth mentors under the guidance of a community-appointed young adult health leader in consultation with traditional Indigenous knowledge keepers and/or Indigenous Elders (Eskicioglu et al., 2014). The theoretical framework guiding IYMP is based on the pedagogical

teachings of two Indigenous scholars, Dr. Martin Brokenleg's Circle of Courage (Brendtro, and Brokenleg, 2009) and Verna Kirkness' 4 R's of Learning (Kirkness, and Barnhardt, 1991).

IYMP is currently being run in partnership with 13 Indigenous communities and academics from five Universities. Indigenous community members are equal partners in IYMP design and implementation (Israel et al., 2001; McHugh, Kingsley and Coppola, 2013). A shared model of decision making based on the Indigenous Kahnawà:ke Schools Diabetes Prevention Project (KSDPP) guides research related to the project (Macaulay et al., 1998). *Locally*, community members form advisory groups that approve research protocols and measures, determine how the program is to be delivered, and culturally tailor the program. *Regionally*, researchers and community members meet annually to determine how the program is scaled up within a region. *Nationally*, an advisory group called the National Advisory Circle (NAC) that includes traditional Indigenous knowledge keepers and/or Elders, university researchers from each region, and regional Indigenous representatives ensures IYMP follows the IYMP model of decision making and Ownership, Control, Access and Possession (OCAP®) principles which enable participating Indigenous school communities to make decisions regarding why, how and by whom data is collected, used or shared (First Nations Information Governance Centre, 2019).

The IYMP team is one of the largest multi-sited academic-Indigenous CUPs in Canada. Little is known about the essential characteristics of establishing successful multiple-sited CUPs with Indigenous partners that use a decolonizing approach. The purpose of this qualitative study was to identify the essential characteristics necessary for the multi-sited IYMP CUPs as perceived by the PIs of IYMP. The identified key characteristics resulting from this research can be used to inform future multi-sited CUPs in Indigenous communities.

5.2 METHODS

This research used a qualitative descriptive method (Lambert and Lambert, 2012; Sandelowski, 2010). Qualitative descriptive methods aim to answer the *who*, *what*, and *where* questions related to events or experiences using data generation techniques such as open-ended individual interviews or focus groups (Sandelowski, 2000; Sandelewski, 2010). In the present study, data were derived from in-person and telephone key informant interviews of IYMP PIs partnered with Indigenous communities that delivered the program in year 1 of its implementation (2016/2017 academic year). As the PIs were located across Canada, it was most feasible to use individual interviews to answer the question of what the essential characteristics were for multi-sited IYMP CUPs as experienced by the IYMP PIs. Informed written consent was obtained from the participants prior to the interviews and oral consent prior to the initiation of the interview. Institutional ethics approval for this study was obtained from the University of Alberta, Research Ethics Board 1 (Pro00069533).

Participant characteristics

An email request for an individual semi-structured interview was sent to the seven IYMP PIs which included both academic and community leads. Five key informant interviews occurred March to May 2019 with those who responded to the request. Data saturation determined sample size and therefore, no further recruitment occurred after data saturation was reached by the fifth interview. Five PIs were interviewed, (2 Indigenous and 3 non-Indigenous; 2 male and 3 female). They had varying levels of experience with CUPs in Indigenous communities, ranging from 5 years to over 30 years of experience.

Data generation

Based on the PI's availability, interviews occurred in person at a national IYMP team gathering (n=2) or by telephone (n=3), and were facilitated by the same researcher [SL] who knew all interviewees through her IYMP implementation research. The semi-structured interview guide was developed by the research team for this study, which included the interviewer and three IYMP academic researchers. Interviews lasted from 32 minutes to 1 hour and 30 minutes in duration. They were digitally recorded and notes were taken during and immediately after the interview. Interviews were transcribed verbatim and identifying information was removed from the transcript.

Data Analysis

Content analysis is the analysis of choice in qualitative descriptive studies (Sandelowski, 2000). Interview transcripts and notes were analysed using inductive content analysis where the data generated were coded, categorized and themed as described by Elo and Kyngäs (2008), using a three step process: preparation, organizing, and reporting. While preparing data, the researcher immersed herself within the data by reading transcripts and her interview notes several times. Open coding occurred in the page margins. These codes were organized into categories.

The themes that were identified as essential for multi-sited IYMP CUPs in Indigenous communities were fitted *a posteriori* (that is, derived through reasoning after analysis) into the concept of community of practice (CoP). This process happened organically after themes were identified as [SL] realized they fit into Wenger-Trayner and Wenger-Trayner's definition of CoP which is, "a group of people who share a concern or a passion for something they do and learn

how to do it better as they interact regularly". In Wenger-Trayner and Wenger-Trayner's (2015) definition there are three main categories of CoP - domain, community and practice. *Domain* is a group of individuals with a shared area of interest. *Community* relates to individuals within the domain coming together to form relationships and to learn from one another through activities or discussion. This requires time and ongoing interactions among individuals, for example, through meetings or gatherings. The co-learning that takes place through these interactions is a beneficial outcome. *Practice* involves the individuals as practitioners creating and using shared resources through experiences, knowledge, methods and tools.

Rigour of this study was ensured using several verification strategies (Creswell and Poth, 2016; Mayan, 2009). These included member checking with the key informants through emails, national team phone meetings and a face-to-face meeting (Olson, 2016). Themes were reviewed by the research team consisting of the research trainee, supervisory committee, community representatives and the IYMP national advisory circle which included Indigenous knowledge keepers and Elders. Rigour was also ensured through methodological coherence by ensuring the methods used matched the purpose of the research question, collecting and analyzing data concurrently and iteratively, thinking theoretically, and purposefully recruiting participants (IYMP PIs) who were best suited to provide knowledge related to the research area (Morse et al. 2002).

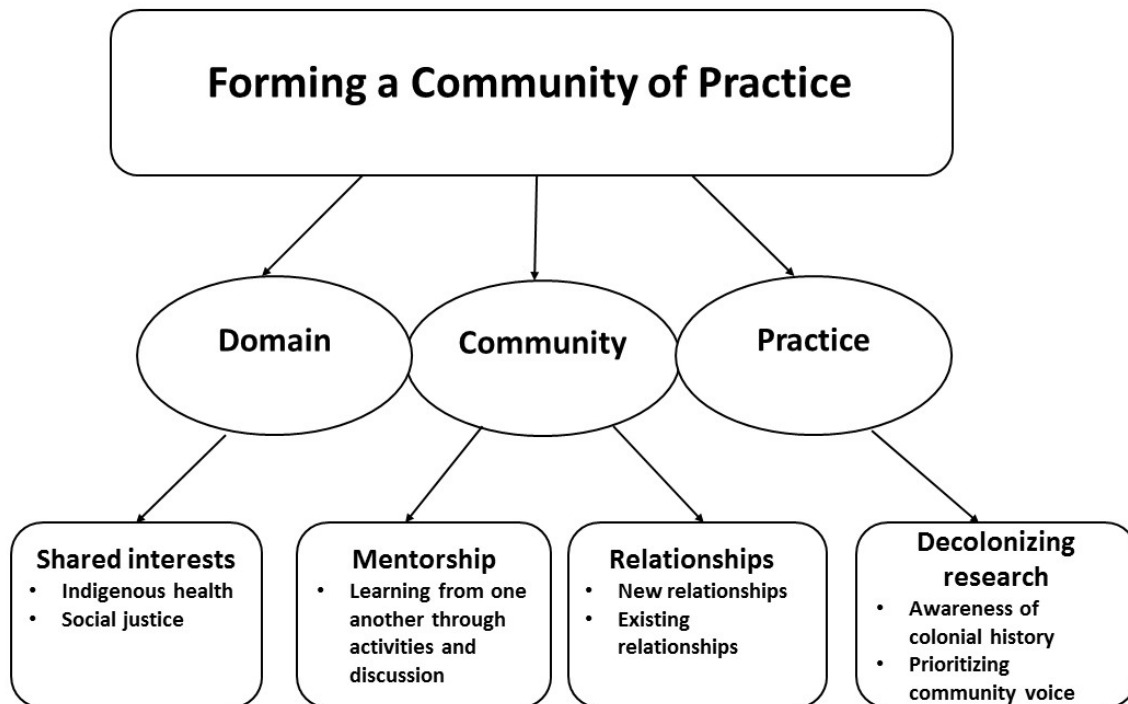
5.3 RESULTS

Themes for Essential Characteristics of Multi-sited IYMP CUPs

The overarching theme identified from IYMP PI interviews was *forming a community of practice* as described by Wenger-Trayner and Wenger-Trayner, (2015). Four themes fell under

the three categories of CoP including: *shared interest for Indigenous health/wellbeing and social justice* (domain), *relationships and mentorship* (community) and *taking a decolonizing research approach* (practice) (Figure 5). Below, these themes are supported using direct non-identifying quotes from the transcripts.

Figure 5. Themes related to forming a Community of Practice for IYMP Multi-Sited Indigenous Community-University Partnerships



Overarching theme: Forming a Community of Practice (CoP)

All key informants remarked the components that create a CoP are essential for large multi-sited projects such as IYMP, which currently has 13 unique Indigenous communities partnering with regional University leads. Often it was emphasized that partnerships were based on the long-term goals of both community and academic partners to improve the health of

children and community. Participant 3 described how the existence of regional CUPs with Indigenous communities facilitated IYMP's multi-sited implementation, "*Yeah so for the IYMP context, I think what's worked really well is that we started the multi-site effort with a lot of existing university community partnerships that were really strong...*" These existing CUPs already included researchers with shared interests in Indigenous wellbeing who had ongoing relationships with Indigenous communities and used a decolonizing research approach in their research.

CoP: Domain Category

Theme: Shared interest in Indigenous health/wellbeing and social justice

All PIs commented that everyone involved in IYMP was interested in Indigenous wellbeing and doing things in a good way with a good heart. Participant 3 stated, "*I think the biggest key was that every member of our research team has experience and we all share the same values when it comes to university community partnerships.*" Participant 2 discussed that the shared perspective of PIs was improving the health and wellbeing of IYMP program participants for generations to come, which is a viewpoint aligned with Indigenous values and principles. The Seventh Generation Principle comes from the Great Law of the Haudenosaunee Confederacy, which is made up of five First Nations. The principle is shared by many First Nation communities and mandates that those who make decisions for the community do so considering how this will impact the next seven generations (Clarkson et al., 1992), as discussed by Participant 2,

"...remembering our own values that if we identify that we're, we're practicing Haudenosaunee values and we're talking about peace, and we're talking about using a good mind, and we're talking about that human love that we have for each other, that we

acknowledge that we have responsibilities and that we need to keep to those responsibilities, keeping those values in the forefront of things... So the first thing was rallying around a common cause...So that's very Haudenosaunee way of thinking, that's part of our core values and ways of doing things, watching out and doing things to you know support the future generations right."

Participant 3 talked about the First Nations principle of mino-bimaadiziwin (Anishinaabe) or miyo-pimâtisiwin (Cree), which is translated into English as "doing things in a good way" (Anishinaabe), or "living a good life" (Cree) and how IYMP stakeholders embody this Indigenous concept when immersed in all aspects of the research,

"...within our [research] group...we tend to promote the concept of mino-bimaadiziwin which is living in a good way... And when you think about those principles, if they're overarching like that you will not run into issues of people forcing an agenda or forcing something that's beneficial for them, it really takes them outside of their own potential needs and reminds them that you know the bigger picture is this."

Participant 5 echoed this sentiment and talked about the process and how mino-bimaadiziwin/miyo-pimâtisiwin facilitated the CUP process,

"...you know and it's not a simple process so I think that patience has been essential and just being human and so we don't know the answers to all of this but we're trying to do it in a good way and so that has very much guided everything that we're doing..."

CoP: Community Category

Theme: Relationships amongst academics and with the partnering communities

Relationships were identified as fundamental when working with multiple partners in academia and in Indigenous communities. Each participant recounted a story of new relationships formed, or building upon existing relationships to strengthen the partnership, which sometimes facilitated the ushering in of new partners within IYMP. As Participant 3 stated,

“The work you guys [Alberta academic researchers] are doing, strong relationships in [First Nation community] keeps creating new relationships, [name removed] has relationships, out East [name of academic researcher] and [name of academic researcher] are doing a phenomenal job fostering relationships in eastern communities.”

Taking necessary time to build these relationships and sustain them is vital to the longevity of the partnership. Some participants discussed the need for academic institutions to understand that community-based participatory research requires time for relationship development and that the pressures to publish results quickly are not viable when working in CUPs. Participant 1 said,

“Building relationships and just connecting, I just think it’s important to connect, take time to connect and ask people how they are... oh yeah time, time is huge. And that time has to be valued and it has to be recognized within the institutional practices that validate the work that you’re doing.”

Participant 3 reiterated this point by saying, *“So go slow, relax...give time for relationships to build and for people to think before you make decisions...”* Many of the participants stated how good they felt about the quality of the relationships that were built amongst academics and with the partnering communities during IYMP implementation. Participant 1 stated,

“ All I want to say is for myself who has worked hard to build good relationships with communities, I was really impressed by my colleagues, the scientists, the researchers,

and our community members... by the process that has evolved. It is something that I just feel very proud to be a part of. And I don't say that lightly because I don't say that very often in my professional work that I feel very proud to be part of something."

When working with many unique communities, researchers recognized there is no standardized way of doing things across multiple communities, but by putting relationships first, the intentions of the partnership are kept true.

"...[the] community in Alberta is not the same as the community in Ontario and just saying we know that, we know you might not approach it the same way but regardless we're approaching it you know as humans with a heart and, and recognizing the relationships come first." [Participant 5].

Participant 1 talked about the complexities involved when writing such a large research grant across many provinces and involving multiple Indigenous communities and Universities. This participant talked of the respect each PI had for others who were in IYMP even though they were in different regions of Canada,

"But we, in order to write these research, large research grants together, we have established a relationship of mutual respect, not only you know within the province or region or the doors, but across the doors... So what's interesting to me is this broader family because I appreciate....that we've become a family..."

Theme: Mentorship

Through the IYMP CoP, learning from one another occurred through mentorship. As some of the senior PIs had many years' experience in the area of engaged Indigenous research, there were instances of junior research colleagues calling upon them for advice on process or

how to approach an issue. Participant 4 indicated that mentorship was essential in multi-sited CUPs by saying,

“... something that has just worked out so beautifully even though it’s not the intent of the IYMP is our academic internal mentorship as well right. So I can think of you know oh my goodness ‘I don’t really know what’s going on here in the [name removed] community, I am going to email [name removed] and ask her for advice’ or ‘I’m going to email [name removed] and see what, what she’s done in Alberta’ or you know what I mean. Just that, that comradery that in all honesty if there is academic mentorship that is built in...”

All PIs had past experience in CUPs and this knowledge was shared through regular national team meetings (teleconference and face-to-face) that included both academic and community members involved in IYMP. Often at these meeting or activities IYMP stakeholders would discuss the process and ask questions or provide advice to others in the CoP. Participant 5 stated the value of having such a diverse network across Canada,

“I think that there is an added value of having this IYMP family across Canada to learn from one another and to create you know in some ways this community of practice...”

IYMP PIs embraced a communal approach and this was reflected in the dynamic of the CUP. As Participant 1 explains,

“So it’s a communal mentorship approach so where I am saying is it’s a little bit different than a western mentorship where it’s hierarchical, the older mentors the younger. We see it as communal, everybody helping each other and part of that was to make it successful because we’re building a leadership program for some of the most vulnerable youth,

inner-city kids...I think we've modeled, we've learned a lot from the model with (First Nation - Ontario) and with (First Nation - Alberta) and so those, those mentorships built into the IYMP research, the mentoring of how to have, how to work with community research communities. It's really important, I think those groups mentored how research can be done in other communities..."

CoP: Practice Category

Theme: Decolonizing Approach to Research

Taking a decolonizing approach to research was identified as essential when partnering with Indigenous communities. This requires having an understanding of historical and contemporary colonial policies in Canada. All PIs stated that it was important for them or their students to understand the colonial factors that have impacted generations of Indigenous communities. Some of the PIs had an understanding of the enduring effects of colonialism and others gained a much deeper understanding of it through the implementation of IYMP and interactions with community partners. Participant 3 reflected on factors such as racism and the impacts of colonialism on Indigenous wellbeing and the importance of acknowledging and reflecting on this when working with Indigenous communities. This PI said,

"And so I've become way more, you know, rather than looking at diabetes or, or chronic diseases at sort of an individual level issue, I've really over the last 12 years grown to appreciate that social ecological approach. And that outer barrier of colonialism and structural racism, structural biases that exist that communities face is really, I would not have acknowledged that at all I don't think 10 years ago [Participant 3]."

This transition in thinking also happened with Participant 5 when explaining their journey as a researcher and the experiences they had gained with being a part of the IYMP team. This PI stated,

“... I feel like this has been important part of, my journey and you know learning more genuinely, genuinely learning more with an open heart and mind about history of Canada, about colonization, you know about yeah about every community that we’re working with, I mean you learn from every community but I think that this has been an important part of my journey..., to understand the real impacts of colonization on, on communities across Canada as well as on you know individuals.”

Participant 1 emphasized that a lack of awareness and understanding about colonial policies and practices in Canada would be a barrier for academics in building those important friendships in Indigenous communities,

“So I am very much aware of my white privilege, unearned white privilege, I am very much aware of the impacts of colonization, I think having that understanding is probably critical to your building relationships... you’re not going to be effective building a relationship if you don’t understand [colonial history]...”

All 5 PIs agreed that prioritizing community voice is an important part of decolonizing research and that a way towards reconciliation is accepting Indigenous ways of knowing and doing (Martin and Mirraboopa, 2003), including Indigenous tradition and ceremony. Participant 4 stated,

“I would say a key thing in this is kind of coming from the IYMP perspective is prioritizing the community voice so that’s kind of flipping the colonial western scientific

research on it's head because usually it's the power, the doers, the this is what we say goes. But really trying to push against that western scientific way of doing things and saying well who are we, we're not the experts of your community, you, you are the experts of your community and you know what, what works, what doesn't, what's needed, so on and so forth you know your leaders and all of that. So I think being, being an advocate for promoting and prioritizing the community's voice whether that's you know community members or leaders or whatever it might be to let that be the, the pushing factor.

Having an awareness of how historical and contemporary colonial policies and practices have negatively impacted Indigenous peoples allowed researchers to understand the importance of stepping back so that Indigenous communities guided the research. Participant 1 explained further,

“...so in terms of our own team like to me having the Elders present, having ceremony, honouring that ceremony, honouring these Indigenous traditions that were made illegal, the Elders talked about it today, they weren't allowed to you know practice their own traditions for fear of being put in jail. And so here we are as a research team honouring and creating a space for ceremony...”

All PIs also talked about doing things in a ‘good way’ or ‘from the heart’ with good intention and in a sense this helped to guide the process. Participant 2 stated,

“ There's also very strong clear statements on [Indigenous] sovereignty and principles that are the guiding forces and that's, that, those things come from the culture. Those things come from the cultural values which, which the researchers you know just you know understand fully and I totally agree that these are the things that you know this is

how we go about conducting respectful research where everybody is at the table from the beginning to the end as equal partners.”

Participant 3 echoed this sentiment saying, “...so that’s one of our fundamental guiding principles is that the community voice is what matters most.

5.4 DISCUSSION and CONCLUSION

This study provides unique insight about multi-sited CUPs with Indigenous communities in Canada through the implementation of IYMP. Currently, the literature involving multi-sited CUPs with Indigenous partner communities is limited. Through this study, it was found that the main element for successfully implementing multi-sited IYMP CUPs was the formation of a community of practice (Wenger-Trayner and Wenger-Trayner, 2015). All IYMP PIs participating in interviews remarked that the main driver for being involved with IYMP was to empower Indigenous communities through doing research “in a good way.” This approach which has benefits for both the community and university researchers is based on principles of social justice and relational accountability which involves respect and taking care of all relations (Ball and Janyst, 2008; Kajner, Fletcher, Makokis, 2012; Wilson, 2008). The CoP included *shared interest in Indigenous health/wellbeing and social justice, building relationships, mentorship, and taking a decolonizing research approach* which fit into CoP categories of domain, community and practice. Within the *domain* category of the IYMP CoP, IYMP researchers all had a shared interest in the health and wellbeing of children.

Based on findings of the present study, when beginning CBPR with multi-sited CUPs in Indigenous communities, research teams could plan in advance for additional time to form trusting and sustainable relationships (Castleden, Morgan, and Lamb, 2012). Within the

community category of CoP, the importance of creating strong lasting friendships between researchers as well as between researchers and community members was noted (Baldwin et al., 2009; Datta, 2018). Thus, post-secondary institutions and funding organizations could recognize this need and develop policies or practice that will help facilitate the process of relationship development for researchers who partake in engaged research. These would include faculty acknowledgement of academics committed to developing authentic community relationships and the provision of research funds to create power-sharing relationships (Lantz et al., 2001; Willows, 2019; Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee., 2017). Mentorship was also identified within the IYMP CoP *community* category. This mentorship was not just between researchers, but also included communities that had longstanding research relationships with academic partners mentoring both academic researchers and new research communities throughout the process. As Wenger-Traynor and Wenger-Traynor (2015) stated, and as occurred with IYMP, this mentorship was a positive outcome of the IYMP CoP.

Within the *practice* category, this study highlighted the importance of *taking a decolonizing research approach* whereby non-Indigenous researchers acknowledge the power and privilege they hold which is a step toward reconciling past harms done by researchers in Indigenous communities (McGregor, 2018; Gokiert et al., 2017; Willows, 2013; Willows, 2019). As such, both Indigenous and non-Indigenous academics partnering with Indigenous communities could acknowledge the negative impacts colonization has had on the health and wellbeing of generations of Indigenous peoples, and recognize their own stance in regard to this awareness, albeit in different ways (Gaudet, 2014; Halas, 2011; Strier and Shechter, 2016; Willows et al., 2012; Willows, 2019). Other important facets of decolonizing research mentioned

by interviewees were prioritizing community voice and Indigenous ways of knowing and doing (Martin and Mirraoopa, 2003), such as the inclusion of Indigenous ceremony and traditions within the research program as decided by community partners (Castleden, Morgan, and Lamb, 2012; McGregor, 2018). Some PIs participating in interviews also acknowledged the importance of taking the socio-ecological model into account within a decolonizing research approach considering that multiple social and ecological conditions are risk factors for poor health within Indigenous populations (Pigford and Willows, 2010; Willows et al., 2012).

Strengths of this research included the involvement of both Indigenous and non-Indigenous principal investigators with a wide range of experience in partnering with Indigenous communities in Canada. This allowed for broad and unique perspectives to be generated related to IYMP's multi-sited CUPs in Indigenous communities. Rigour of this study was achieved through member checking and multiple verification strategies. As PIs were located in multiple provinces across Canada, a limitation of this research was the lack feasibility for engaging all PIs in one location for a focus group interview, in addition to the individual interviews.

This study contributes to the literature surrounding the essential characteristics involved in the implementation of multi-sited Indigenous CUPs. Those who are interested in partnership (communities and/or researchers) who have a shared interest in Indigenous health/wellbeing and social justice could create a CoP. With this CoP, time and funds required for building and sustaining new partnerships and relationships is essential. This study indicates that mentorship within a CoP benefits all stakeholders and is a non-hierarchical process where each stakeholder holds unique knowledge that they can share within the CoP. Finally, stakeholders could be relationally accountable to 'do things in a good way'. This begins with understanding how colonization has impacted Indigenous peoples followed by the recognition of the importance of

taking a decolonizing research approach using a social justice lens, which involves CBPR, power-sharing and prioritizing community voice and ceremony. Overall, the IYMP national team demonstrated the ability to successfully deliver IYMP in partnership with 13 unique Indigenous communities across Canada through a decolonizing research approach using the identified essential characteristics in this study.

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CHAPTER 6- INDIGENOUS YOUTH MENTORSHIP PROGRAM: A DESCRIPTIVE CASE STUDY OF IMPLEMENTATION IN ALBERTA, CANADA

The following manuscript has been submitted for publication and is currently under review as Lopresti S., Willows N. D., Storey K. E., McHugh T. L. F., IYMP National Team. “Indigenous Youth Mentorship Program: A Descriptive Case Study of Implementation in Alberta, Canada.” *Rural and Remote Health*. Citation style has been changed from Vancouver to APA style to maintain consistency in this thesis.

6.0 ABSTRACT

Introduction: As children spend a significant amount of their day at school, school-based health promotion interventions are one strategy for improving health and wellness for Indigenous children and youth in Canada. The Indigenous Youth Mentorship Program (IYMP) is one such intervention. IYMP’s core components include physical activities/games, healthy snacks, relationship building activities and traditional Indigenous teachings. The theoretical framework guiding IYMP is based on the pedagogical teachings (Circle of Courage and Four R’s) of two Indigenous scholars (Brokenleg and Kirkness). Between 2012-2018, IYMP was rippled (IYMP team’s preferred term for ‘scaled-up’) to 13 Indigenous school communities across Canada. Schools are encouraged to tailor the program to suit their unique contexts. There is little information about the scalability of school health programs developed for Indigenous children. The purpose of the present research was to describe the implementation of IYMP during its first year of rippling to two rural First Nation community schools in the province of Alberta.

Methods: This descriptive case study described the first year of implementation (January to June 2017) of IYMP as an afterschool healthy living program in two rural First Nation community schools. IYMP was led by a young adult health leader (education assistant) and youth mentors (grades 6-12) from each community. Program implementation was documented using program logs and observational field notes of program sessions. Descriptive statistics were used to analyze log data.

Results: In total, 33 children, 2 young adult health leaders, 19 high school youth mentors and 6 junior high school mentors from both First Nation schools participated in IYMP. On average, there were 11.7 children (median= 11, range=6-24) per program session, typically 3 males and 7 females. Weekly sessions had a mean duration of 87 minutes (median=90, range=75-110). Foods most often offered to children were whole unprocessed foods such as fruits and vegetables. Water was served at each session. Physical activities had a mean duration of 70.7 minutes per session (median=70, range=45-95). Activity sessions occurred in the gymnasium 73% of the time or in both the gymnasium and outside 27% of the time, depending on weather and environmental conditions. The intensity level of physical activity sessions was mostly “vigorous” (59%), followed by “walking” (32%) or “sedentary” (9%). Traditional teachings were embedded within the program activities and sometimes included the participation of Elders from the community. Activities included making bracelets using Medicine Wheel colours with Elder teachings/Elder participation, sharing circles, the Seven Grandfather Teachings (i.e., wisdom, love, respect, bravery, honesty, humility and truth), use of First Nations languages in games or in prayer, and the ceremonial burning of sweetgrass (i.e., smudging).

Conclusion: While modifications to program delivery were encouraged, both schools delivered all core components of IYMP at each session. IYMP planning could explore ways to make the program more appealing to males. IYMP's use of an Indigenous theoretical framework, flexibility and resonance with Indigenous values likely facilitated its successful rippling to these schools. The next steps are to determine if the delivery of IYMP to additional communities has adaptability, effectiveness and high impact.

6.1 INTRODUCTION

Indigenous peoples, including First Nations, Métis and Inuit, are demographically the youngest and fastest growing segment of Canada's population (Statistics Canada, 2018). Due to colonial policies and practices, Indigenous children and youth experience a disproportionate burden of poor health compared to their non-Indigenous counterparts, such as having a higher prevalence of obesity and diabetes (Beavis et al., 2015; Pigford & Willows, 2010). To reduce health disparities, decolonizing strengths-based interventions that focus on assets, resilience and protective factors are required (Willows, 2019).

Children spend a significant amount of their day in school settings, therefore, comprehensive school-based health promotion approaches are ideal to support the development of positive health behaviour and improvements in students' educational outcomes (Storey, Spitters, Cunningham, Schwartz & Veugelers, 2011; Joint Consortium for School Health, 2018; Toulouse, 2016). Comprehensive school health (CSH) is an internationally recognized approach for supporting improvements in students' educational outcomes while addressing school health (Joint Consortium for School Health, 2018). In addition, CSH promotes a culture of health whereby children become change agents promoting health behaviours outside of the school

environment and in their home environments (Epstein, 2011; Langford et al., 2015; McKernan et al., 2019). CSH approaches for Indigenous children should be culturally relevant, promote community autonomy, and be sustainable (Gillies et al., 2020).

When taking a CSH approach, peer mentorship in Indigenous school settings has been shown to promote positive lifestyle behaviours among younger students such as increased fruit and vegetable consumption, increased physical activity and reduced consumption of sugar-sweetened beverages and non-nutritious foods (Ronsley, Lee, Kuzeljevic, & Panagiotopoulos, 2013; Santos et al., 2014). Furthermore, those who act as peer mentors show improved social skills, self-esteem, and social responsibility (Santos et al., 2014). Peer mentorship provides responsibility and empowerment for Indigenous youth as they act as role models for their younger peers (Kroes, 2008). Given the promising health promotion potential of peer-mentorship, more information about peer-led programs for Indigenous youth is required (Vujcich, Thomas, Crawford, & Ward, 2018).

The Indigenous Youth Mentorship Program (IYMP) is an afterschool peer-mentorship health promotion initiative that aims to reduce risk factors for obesity and diabetes and improve the overall health and wellbeing of Indigenous children and youth. Its core program components are physical activities/games, healthy snacks, relationship building and traditional Indigenous teachings (i.e., historical cultural values of wellbeing passed down by Elders). It is delivered as a CUP whereby the participating school partners with an academic lead at a regional Canadian university who provides resource support (Williamson et al., 2016). The theoretical framework guiding IYMP (Figure 3) is based on the pedagogical teachings of two Indigenous scholars: Dr. Martin Brokenleg's Circle of Courage (Brendtro, & Brokenleg, 2009) and Verna Kirkness' Four R's of Learning (Kirkness, & Barnhardt, 1991).

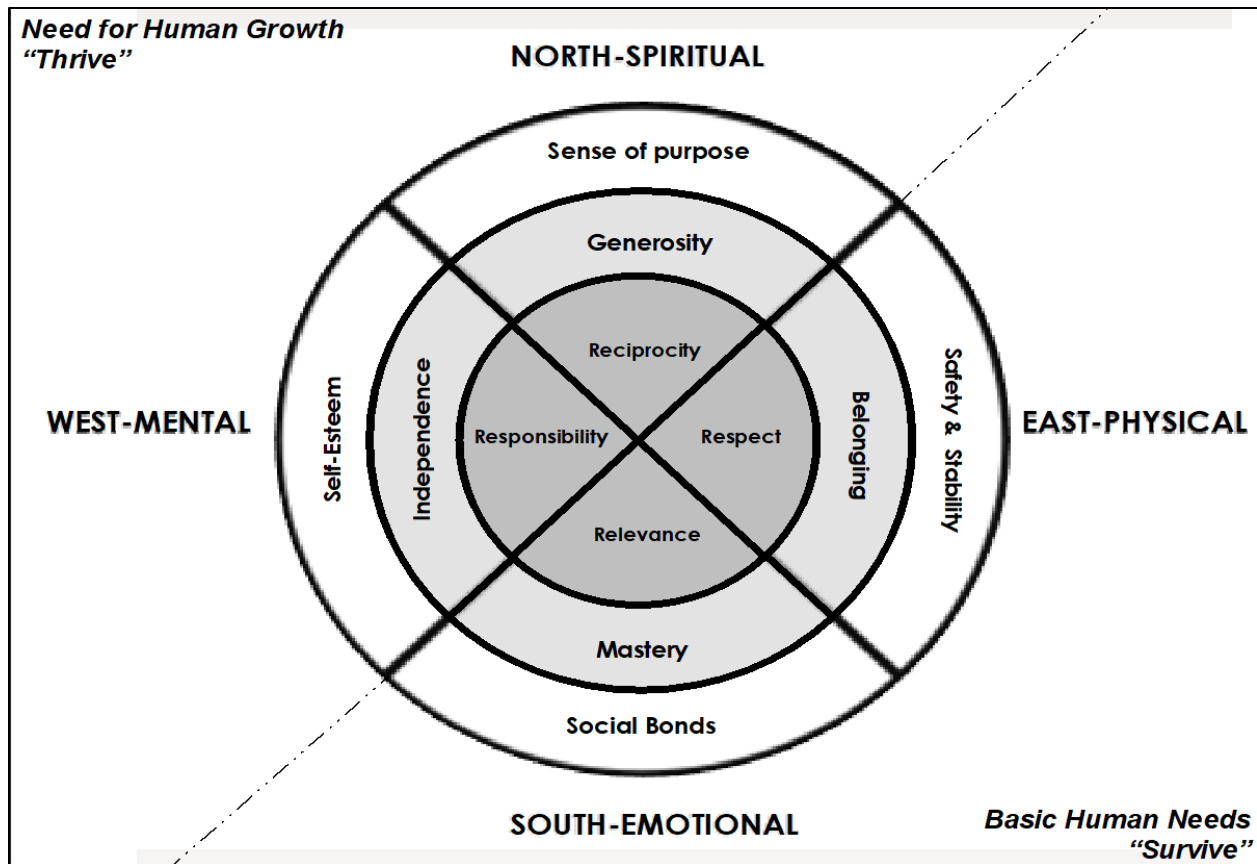


Figure 3. Theoretical Framework Guiding the Indigenous Youth Mentorship Program

Source: Heather McRae & Colleagues (McRae, 2016). Reprinted by permission of Dr. Heather McRae & Colleagues.

The pilot phase of IYMP occurred from 2010 to 2012 in the province of Manitoba. It was found to be effective for mitigating increases in children’s weight gain and waist circumference, and improving healthy living knowledge and self-efficacy (Eskicioglu et al., 2014). The Public Health Agency of Canada included IYMP in its list of *Best Practices*, that is, evidence-based interventions that promote healthy living (Public Health Agency of Canada, 2016; Wan et al., 2008). Subsequently, IYMP was rippled (IYMP team’s preferred term for scaled-up) nation-

wide to 13 communities across Canada to determine if it remained effective across multiple settings (Indig et al, 2018).

The purpose of the present research was to describe the implementation of IYMP during its first year of rippling to two rural First Nations community schools in the province of Alberta. In year 1 of implementation in these communities, IYMP was offered once per week for 20 weeks as a 90-minute afterschool program. Youth mentors provided mentorship and offered younger elementary students healthy snacks, physical activity games, and relationship building activities that included traditional Indigenous teachings under the guidance of a community-appointed young adult health leader (YAHL) (education assistant).

6.2 METHODS

This descriptive case study (Stake, 1995) described the implementation of IYMP as an afterschool program in the two schools, from January 2017 to June 2017. Case studies are useful when studying phenomenon in a particular setting to illustrate how things occur in practice (Boodhoo & Purmessur, 2009). The case is viewed as an object or a “bounded system” and therefore, a case study was ideal to study the implementation of IYMP (Stake, 1995; Yazan, 2015). In case studies, any methods for data generation and analysis can be used (Stake, 1995). Descriptive case studies gather data from multiple sources to provide a rich description of the phenomenon under study (Stake, 1995; Yazan, 2015).

Setting

The two schools implementing IYMP are located in small rural communities approximately 60 kilometers from the closest large urban city, in Treaty 6 Territory. Cree, Stoney and English languages are spoken. Each school is band-operated and has a gymnasium,

kitchen and outdoor school grounds. One school has partnered with researchers at the University of Alberta for more than ten years, whereas the other school is a new CUP.

IYMP Participants

IYMP participants in Alberta included community-appointed YAHLs (education assistants) who oversaw program delivery and supported the Indigenous youth mentors (grades 6-12, ages 12-18 years-old) in their role. Youth mentors were identified by teachers or YAHLs. Participating elementary school children (known as mentees) were in grades 4 or 5. In August 2016, an IYMP national gathering occurred in Winnipeg, Manitoba for YAHLs, youth mentors, community leaders, Elders/Knowledge Keepers, research trainees and researchers. At this gathering each school received an IYMP program manual related to the core components of IYMP, with the understanding that communities would tailor traditional Indigenous teachings in ways that honoured the unique cultural context of their own communities.

Data Generation

The primary researcher (SL) was a non-Indigenous PhD candidate who formed a relationship with one of the school communities in 2015, and became involved in the IYMP implementation planning process in 2016. SL attended the 2016 national IYMP gathering where she met the IYMP National Team that included community and academic leads, trainees and Elders/Knowledge Keepers. Subsequently, SL participated in local, regional, and national gatherings and teleconferences.

The data generation strategies used in the case study included onsite field observations (n=11) of IYMP sessions in the two schools between February 2017 - June 2017. SL was mainly an “observer” but sometimes was a “participant observer.” Observations generally lasted 2 hours and included session setup and cleanup. Notes were recorded on an IYMP program log form

designed by the IYMP National Team (Figure 6). The form included information on participants and program activities, content, and duration (minutes) of program components, and contextual factors (e.g., participants’ engagement with each other).

Session Location (eg. Elementary School) Community Code:				Research Team Member:			
Session Type: Planning/Training Day Y N				Afterschool Program Day Y N			
Date:			Day	month	year	Day of Week:	
Session Start Time				Session End Time			
# of mentees				grades		# female/male:	
# of High school youth mentors				# of YAHL(s)			
# of other helpers, observers		Description of other helpers (e.g. teacher, parent)					
Was a Healthy Eating component included?:		Y	N	Start Time:		End Time:	
Location: Circle all that apply		Indoors	Outdoors	Gymnasium	Multi-purpose with space	Room – no activity space	Other: describe
Comments: provide brief description of food served and whether the food was eaten/enjoyed, who prepared the food, how you would classify the food and any additional comments:							
Was a Physical Activity component included?:		Y	N	Start Time:		End Time:	
Location: Circle all that apply		Indoors	Outdoors	Gymnasium	Multi-purpose with space	Room – no activity space	Other: describe
Comments: provide brief description of activities played, whether students participated, who led the activities, and any comments you feel are important to include:							
Were there traditional teachings/relationship-building activities included in the program?		Y	N	Start Time (or N/A):		End Time (or N/A):	
Location: Circle all that apply		Indoors	Outdoors	Gymnasium	Multi-purpose with space	Room – no activity space	Other: describe
Comments: provide brief description of activities, whether students participated, if there was a specific activity, and any comments you feel are important to include:							

Figure 6. IYMP Implementation Log Form

Observations were made about the healthfulness of food served to children using the Alberta Nutrition Guidelines for Children and Youth (Alberta Government, 2012). Foods were categorized as *Choose Most Often*, *Choose Sometimes*, and *Choose Least Often* based on nutrient content and how foods align with Canada’s Food Guide. *Choose Most Often* foods are high in

nutrients and low in sugar, sodium and fat (e.g., fruits, vegetables, whole grains and water). *Choose Sometimes* foods contain moderate nutrients and have moderate amounts of sugar, sodium, and fat (e.g., dried fruit with added sugar, sweetened yoghurt). *Choose Least Often* foods have low nutritional value and are high in sugars, sodium and fats (e.g., cookies and donuts).

IYMP physical activities focused on moderate to vigorous intensity activities based on the Canadian 24-hour Movement Guidelines for Children and Youth (Canadian Society for Exercise Physiology, 2020). Children or youth who engage in these intensity levels daily, do better in school, feel happier, maintain healthy body weights, and improve their self-confidence (McRae, 2016). Intensity levels of physical activities in IYMP sessions were ranked as, “sedentary” where participants were standing in place, lying down, or sitting; “walking” where individuals were walking at a casual pace, or “vigorous” where participants were running, jogging, or doing cartwheels where they became visibly sweaty (face/clothing) and displayed rosy cheeks (McRae, 2016).

Traditional cultural activities and teachings were embedded within the program. They included traditional teachings (e.g., Medicine Wheel or Seven Grandfather Teachings), language (Stoney or Cree), and ceremony (e.g., prayer or smudging).

Program facilitation styles were recorded as frequencies based on the Teacher Monitoring Analysis System and included: *Leading* - leader takes control and sets-up game; *Encouraging* - verbal encouragement for participation; *Facilitating* - leader puts out equipment; *Modeling* - leader participates; and *Unstructured* - no facilitation/just supervision (van der Mars, 1989).

Log data were entered into a MS Excel spreadsheet, analyzed and reported using descriptive statistics: number, mean, median and range for interval data. Frequencies were

reported for ordinal and categorical data. Quantitative findings were triangulated with observations and field notes to enhance rigour and to provide context for the quantitative findings. Data from both schools were aggregated to protect participant and community anonymity.

Ethics Approval

This research adhered to Ownership, Control, Access and Possession (OCAP®) principles which enabled each school participating in IYMP implementation to make decisions regarding why, how and by whom data was collected, used or shared (First Nations Information Governance Centre, 2019). Community members formed advisory groups that approved research protocols and measures. Informed written consent was obtained from YAHLs. Elementary school children and youth mentors obtained written parental consent and provided their assent to participate. Community consent was in the form of a Band Council Resolution. This study was approved by the University of Alberta, Research Ethics Board 1 (Pro00069533).

6.3 RESULTS

A total of 33 children, 19 youth mentors (high school) and 6 junior mentors (junior high school) from the two schools participated in IYMP. On average, there were 11.7 children (median= 11, range=6-24) present per program session with 3.3 males (median= 3, range=1-6) and 8.5 females (median=7, range=5-18). One YAHL and 4.6 youth mentors (median=3, range=0-13) were present during each session along with other facilitators (mean 1.2, median=1, range=0-3) such as research coordinators, teachers, parents or Elders. Based on SL's field notes, there were fewer male than female youth mentors present during program sessions. Weekly IYMP sessions had a mean duration of 87 minutes (median=90, range=75-110). For all sessions,

facilitation styles were always combinations of Leading, Encouraging, Facilitating, and Modeling. No sessions included unstructured supervision.

The nutrition component delivered at each session had a mean duration of 16.8 minutes (median=15, range=10-25) with youth mentors leading the session 41% of the time and YAHLs 59% of the time. YAHLs, youth mentors and sometimes children would help to prepare and/or put out the snacks for the session. Food was most often served in the gymnasium with everyone gathered together where socializing would take place amongst all participants and laughter was often observed. The foods most often included were whole unprocessed foods such as pineapple, carrots, cantaloupe, grapes, and bananas. Packaged snacks were included such as crackers and cheese, fruit sauce, and fruit cups. All children were observed eating at each session and many said they enjoyed the food. Some children would have a second serving. No food wastage was observed. The majority of food fell into the *Choose Most Often* (68%) or *Choose Sometimes* (23%) category; however, 9% were in the *Choose Least Often* category foods of low nutritional value such as fruit gum candies. Water was served at every session with the occasional addition of juice.

Physical activities had an average duration of 70.7 minutes per session (median=70, range=45-95). Youth mentors led sessions 45% of the time and YAHLs 55% of the time. Activity sessions occurred in the gymnasium 73% of the time or in both the gymnasium and outside 27% of the time, depending on weather and environmental conditions. The average intensity levels of physical activity sessions were “sedentary” (9%), “walking” (32%), or “vigorous” (59%). Common games were basketball, handball, kickball, parachute, and free play. Based on SL’s observations, when there was a male youth mentor, YAHL or facilitator present, the male children were more likely to engage in play with them. Sometimes during play a child

would move to the sidelines to take a break or because they said that they didn't want to play a particular game. As relationship building was weaved within the program, it was observed that within minutes, another child or youth mentor would encourage the child to rejoin the activities and he/she would rejoin. Many of the children displayed friendship towards one another such as cheering for other children during games, patting each other on the back, or joking with one another and laughing during program sessions. Children would sometimes engage with SL when they wanted a brief break from activities by sharing stories with SL, or telling her their favourite snack or preferred activity that day.

The cultural/traditional teachings component was embedded within the program and included activities such as making bracelets using Medicine Wheel colours with Elder teachings/ Elder participation, sharing circles, the Seven Grandfather Teachings (i.e., wisdom, love, respect, bravery, honesty, humility and truth), traditional language (Cree and/or Stoney) in games or in prayer, and burning sweetgrass for ceremonial purposes (i.e., smudging). The Medicine Wheel is a symbol used to represent various spiritual concepts which commonly identify the power/medicine of the four directions (east, south, west, north). Many participants displayed excitement and smiled broadly when making the Medicine Wheel bracelets. They were often seen helping each other. Traditional teachings were frequently shared when children were gathered in a sharing circle, usually at the end of a program session. Questions were asked to set up the teachings such as, "What does honesty mean to you?" Sharing circles were used to debrief at the end of sessions where children were asked what they liked best about the session or to make suggestions for the next session's games or preferred healthy foods.

6.4 CONCLUSION

There is little information about the implementation and scalability of school health programs developed for Indigenous children, such as IYMP (McKay et al., 2015). To allow optimal local flexibility, the 13 IYMP school communities were encouraged to adapt the mode of delivery and core components to ensure that the program met community and participant needs (Indig et al., 2018; Huebschmann, Leavitt and Glasgow, 2019). The present case study research demonstrated that it was feasible for two Alberta rural community schools to deliver all program components. Both schools made cultural infusions to the program. They sometimes engaged Elders to give traditional teachings. Cree or Stoney First Nations languages were used in games such as ‘tag’ or to name animals. Connecting children with cultural traditions and language revitalization are important health promoting initiatives in Indigenous communities that promote wellness and strengthen children and youth’s resilience (Atkinson, 2017; Auger, 2016; Currie, 2015; Wexler et al., 2014).

The majority of snacks offered to children were healthy; however, not all snack choices fell into the *Choose Most Often* category. Although both communities are within an hour drive to a city, not everyone has easy access to healthy fresh foods. In consideration of this, IYMP planning in rural and remote locations could work with schools to make fruits and vegetables accessible in other ways.

The communities could be supported through youth mentor/YAHL training to find ways to encourage more vigorous activities. There were fewer male children, youth mentors and YAHLs. It would be beneficial to explore ways of recruiting more males considering that the male children were more likely to engage with the male mentors than with the female mentors. Having more male mentors might encourage more male children to participate in the program.

Effectiveness and sustainability in real world settings is an essential component of scaling-up programs (Huebschmann, Leavitt and Glasgow, 2019; Hughes and Margetts, 2011). In both Alberta First Nations schools, infusing traditional cultural practices into program components was important to its successful implementation. Other research by the authors has shown that IYMP implementation is successful as a health promotion program for mitigating the risk of lifestyle diseases because it incorporates holistic approaches to lifestyle modification that honour local Indigenous voices and worldviews (Authors, submitted). The results of this descriptive case study may be used to understand the feasibility of rippling from this Indigenous peer-led mentoring initiative to Indigenous communities nationwide.

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CHAPTER 7- SUMMARY: OVERVIEW OF FINDINGS

7.1 Significance of Findings- Implications for Policy and Practice

There is a gap in the literature surrounding implementation science (Turunen et al., 2017), and in particular, implementation science related to peer-led Indigenous youth health promotion initiatives (Vujcich, Thomas, Crawford, and Ward, 2018). The findings of the three components of my implementation science research (i.e., focused ethnography, qualitative descriptive, and descriptive case study) converged to demonstrate that IYMP can be successfully scaled up as a CUP to Indigenous communities that each have their own unique histories and cultural contexts. Successful IYMP implementation occurred across rural, remote and urban settings, as CUPs with both experienced and novice community researchers. My research identified key characteristics and contextual factors of the IYMP itself, investigators, partnerships and communities, which facilitated the successful implementation of IYMP across multiple Indigenous contexts. Figure 7., shows the key characteristics for successful IYMP implementation that were informed by each of the three studies and included data generation strategies of participant observations and program log notations as well as qualitative interviews with youth mentors, YAHLs and principal investigators who were both Indigenous and non-Indigenous community and academic leads.

Thesis Summary: Characteristics of Successful Implementation

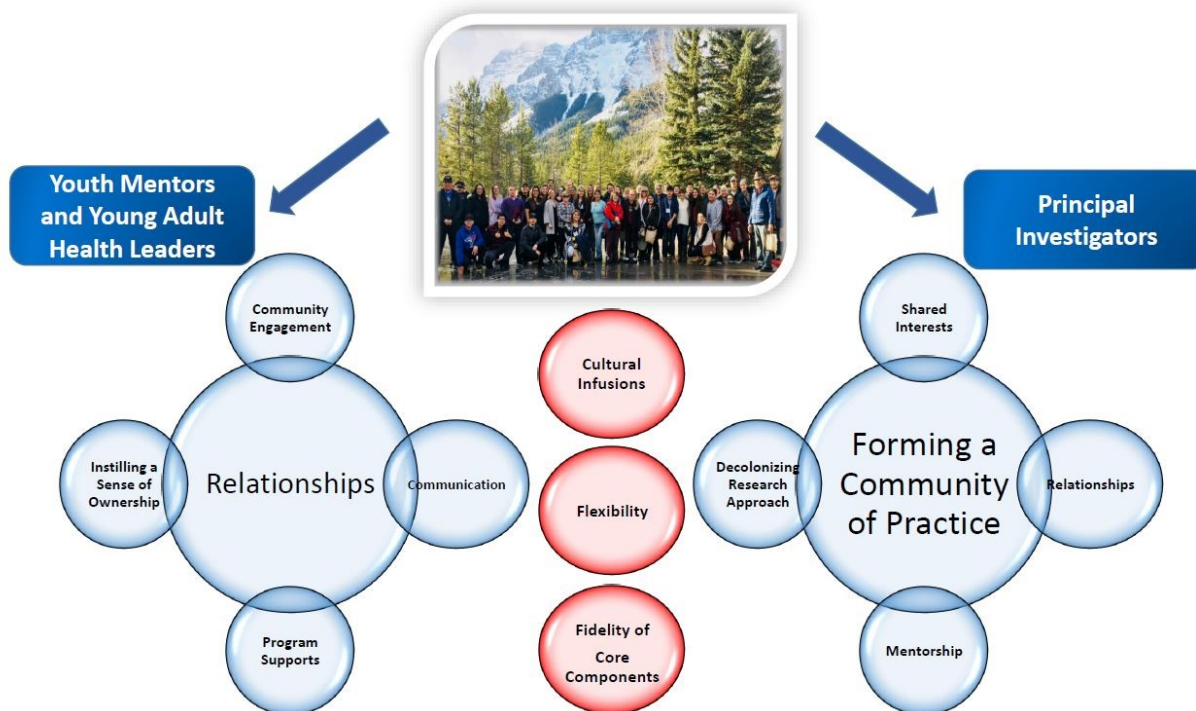


Figure 7. IYMP Essential Characteristics of Successful Implementation

Relationships grounded in the Indigenous concept of “*Doing things in a good way*” were formed among individuals in IYMP communities, those engaged in IYMP CUPs, and, in the IYMP community of practice (CoP). At community, partnership and national levels, power-sharing relationships and flexibility in ways of doing things were important (Castleden, Morgan, and Lamb, 2012). Creating and maintaining relationships at all levels involved regular *communication* and sufficient *time* to form trusting relationships. First Nation communities that had years of experience with CUPs provided *mentorship* to First Nations communities that had less experience. Likewise, academics with more years of experience with decolonizing research *mentored* academics with fewer years of experience. *Program supports* provided to communities

through partnerships with academic researchers for operating costs to fund training meetings and regular knowledge sharing gatherings and teleconferences, helped to build capacity and expertise in communities related to the implementation of CSH programs (Moir, 2018). These supports contributed to the high level of IYMP program fidelity.

The formation of a *CoP* within IYMP, with those who shared interests in Indigenous health and social justice, was a key facilitating factor for the implementation and rippling of IYMP across Canada. Within the IYMP CoP, both academic researchers and community leads shared knowledge about how to work together in multi-sited CUPs. Decolonizing research methods were identified as essential to successful CUPs. At the community level, *instilling a sense of ownership* through *community engagement* (e.g., Elders/traditional knowledge keepers instilling traditional teachings) was considered essential to program implementation and facilitated local cultural infusions to the program. The flexibility of IYMP helped to *create a sense of ownership* because core program components were adapted to local contexts, which also ensured their fidelity of implementation (Heuschmann et al., 2019). Decisions about content and delivery came directly from local community members including youth mentors, YAHLs, Elders or traditional knowledge keepers. In this way, the program was meaningful and tailored to meet local community needs and preferences (Canadian Council on Learning, 2007). Engaging community members to lead program delivery contributed not only to the success of IYMP implementation as it was rippled to new communities, but will also contribute to the sustainability of the program as these community leads may now act as program champions with expertise in IYMP in the future (Naylor et al., 2010).

The findings of this research may help to inform both new and existing IYMP school communities. Indigenous communities joining IYMP may use these findings to inform their own

implementation of the program. The findings can also help to ensure the success of the program as it transitions from a CUP to an autonomous community-run program. The relationships formed in the IYMP CoP that contributed to its successful implementation are meant to be longstanding and as such, academics, ideally, should be available for sustained dialogue with IYMP communities (Government of Canada, 2019). This could include activities such as knowledge sharing and support in writing program funding applications during the initial transfer of IYMP to community autonomous ownership.

7.2 Research Strengths and Important Contributions

A major strength of this thesis research was that the multi-method research design allowed findings to be triangulated across three different studies. As multi-method research aims to answer a broad question such as the key characteristics involved in IYMP implementation, it was an ideal research design to meet the objectives of this research. This design allowed us to obtain a robust perspective of IYMP community implementation and the experiences of multiple IYMP key stakeholders (Morse, 2003). Successful implementation of health programs such as IYMP, should take into account the perspective of implementation program leaders, such as youth mentors, YAHLs and principal investigators (Moir, 2018). Research has shown, designated program leaders who guide, or have previously guided, program implementation have a much higher implementation success rate for delivering all program components than programs who do not have designated leads (Fixsen et al., 2009). The findings from this multi-method research allowed for exploration of these broad stakeholder perspectives, which may facilitate future implementation through informing future IYMP program leads.

Another strength of this research was the CBPR approach that was embedded within the entire process. This approach is a way to decolonize research as it allows for power sharing and honours Indigenous voice and ways of knowing (McGregor, 2018). IYMP community leads were involved in all aspects of my research including reviewing any outputs of the research such as conference presentations or research manuscripts prior to publication. The process of having a local research committee and the national advisory circle review all findings prior to dissemination ensured that an Indigenous voice was brought to the forefront of my research; this will help ensure that the knowledge produced through this research will be meaningful to all team members (Jull, Giles and Graham, 2017). Gatherings facilitated this research as it made it more feasible to carry out focus groups or interviews in one setting with IYMP members who were located in different provinces. The proximity of two IYMP first year communities to my academic institution in Alberta provided me the opportunity to gather field observations from each community to inform this research.

It is important to acknowledge within this research that the perspective of community leads that informed study outcomes do not necessarily reflect the perspectives of all community members. Ideally, more community members would have been included in interviews; however, greater community involvement was not possible due to limited capacity, resources and competing interests (Huebschmann et al., 2019). A limitation concerning the PI study was that it was not feasible to gather all PIs in one location for a focus group to further inform the findings from individual PI interviews. Conducting a focus group in addition to the individual interviews would have offered some advantages. Qualitative method triangulation could have achieved a more comprehensive understanding of successful CUPS. This is because focus groups would have elicited responses from PIs based on their interactions with one another within a group

setting, which may have resulted in a richer group perspective of the essential characteristics of multi-sited CUPs with Indigenous communities (Mayan, 2009). Including results from a focus group could have also enhanced study rigour (Mayan, 2009). As the PIs were located in several provinces, the cost to bring them together for a focus group was prohibitive.

Overall, this thesis research has made a major contribution to implementation science literature in Indigenous contexts by providing the key characteristics of successfully implementing a peer-led comprehensive school program across diverse community settings. The findings identified within this thesis, along with the research findings of other IYMP trainees across the country, will contribute tremendously to understanding the breadth and depth of what is involved in implementing health promotion Indigenous peer-led programs through a multitude of stakeholder perspectives. This thesis research provided insight on what made IYMP, as a multi-sited CUP with Indigenous communities, successful, as well as the key characteristics that facilitated this process. The implications of this research are important as it demonstrated that it is possible to respect local traditions and knowledge when involved in national partnerships with multiple universities and Indigenous communities. It is important that the findings gleaned from this research, as well as the research of other IYMP trainees, are made available to support other academic or Indigenous community researchers who work together to support the implementation of health promoting programs in Indigenous school settings.

7.3 Broader Policy Implications

To support Indigenous research and research training, the Federal Government of Canada recently recognized the primary importance of building relationships and prioritizing community voice with First Nations, Inuit and Métis peoples, through the release of the *Setting New*

Directions, Strategic Plan 2019-2022 report (Government of Canada, 2019). The guiding principles within the document aim to promote reconciliation between Indigenous and non-Indigenous peoples. The report emphasizes the use of decolonizing research methods and acknowledges that current policies for funding models for Indigenous research reinforce colonial power imbalances, creating barriers to reconciliation and the practice of decolonizing research (Government of Canada, 2019). The use of decolonizing research methods when working with Indigenous communities promotes reconciliation between Indigenous and non-Indigenous peoples, and protects the rights and traditional cultures and practices of Indigenous peoples as declared in the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP, 2008). An important finding from the PI interviews is that to be effective in research with Indigenous peoples, researchers and research trainees need to have awareness and understanding of the history of colonization on Indigenous peoples. PI interview findings from my research taken together with the recommendations from the *Setting New Directions, Strategic Plan 2019-2022* report, suggest that undergraduate or graduate level training programs could include courses related to the history of Indigenous peoples in Canada as one approach to meeting research trainees need to gain knowledge in this area.

My research identified the importance of having sufficient time to build relationships and form a CoP. Similarly, Castleden, Morgan, and Lamb (2012) identified the importance of having sufficient time to form authentic relationships between community and academic institutions, which can be a complex process. These findings have implications for University policies and practice with regards to the assigning of academic merit. University policies that govern this process should consider the additional time required for community-based academic researchers to engage with communities (Castleden, Morgan, and Lamb, 2012; Willows, 2019). For funding

agencies, a recommendation can be made to allow sufficient time for relationship building activities, and to increase reporting timelines (Willows, 2019). The need for program supports for school communities involved in program implementation has additional implications for academics applying for funding (Castleden, Morgan, and Lamb, 2012). These supports should be considered when university researchers apply for grant funding, as they were essential for the successful implementation of IYMP.

7.4 Indigenous Youth Mentorship Program Recommendations

The ethical guiding principles of IYMP that helped ensure the success of this implementation research were adopted from multiple sources, such as the KSDPP ethical guiding principles. One recommendation is that once IYMP team members publish the current draft version of “IYMP guiding principles,” it should be made available for wide dissemination to academic and community researchers who engage in Indigenous CUPs, through open access journals. As IYMP research was guided by local and national perspectives, having published ethical guiding principles that are specific to the context of IYMP may prove beneficial for future IYMP CUPs. This guiding principles document will also benefit other Indigenous or non-Indigenous peoples working in Indigenous CUPs. In addition, promoting the formation of local IYMP research advisory committees in each school would ensure that community voice is always at the forefront in university partnerships, which is important to promote reconciliation (Gokiert, Willows, Georgis, Stringer, and Alexander Research Committee., 2017)

In order for relationships to be formed and trust to develop, it is recommended that additional time and money for gatherings be included in future grant applications to provide the required supports for new IYMP partnerships (McKernan et al., 2019). As gatherings are costly,

it is recommended that regular IYMP telephone meetings continue to provide support to IYMP CoPs. It is recommended that IYMP continues to engage Elders/traditional knowledge keepers and community champions (school administration, YAHLs and youth mentors) as this engagement was key for instilling a sense of ownership of the program (Storey et al., 2016). IYMP should also continue to encourage communities to tailor program components to be meaningful to their participants. Additionally, partnering with rural or remote communities to find accessible and affordable fresh fruits and vegetables should be considered, as nutritious food costs for programs in these communities may exceed program budgets.

It is important to recognize that the first year of IYMP implementation may have occurred with school communities that were already highly motivated to engage in CUPs. To provide equitable rippling of IYMP, it is recommended that promotion of the program to new communities continue through current approaches such as videos or pamphlets, but additionally include the creation of an IYMP website that could be accessed by all Indigenous school communities. In 2019, I participated in an international conference about my IYMP research. Afterward, several conference attendees who were eager to learn more about IYMP and the possibility of bringing IYMP to their community, asked me for the IYMP website address which currently does not exist. Although a website may be costly to set-up, the benefits of having more communities participate in IYMP implementation results in improved health outcomes for Indigenous children (Eskicioglu et al., 2014), and increased community and youth empowerment.

7.5 Future Research

The research conducted as part of this thesis demonstrated that it was possible to successfully implement and evaluate a health promotion community university partnership such as IYMP across many diverse Indigenous school communities. As with any research or public health initiative, it is important to consider future research directions and the sustainability of IYMP as it transfers towards full community ownership (Durlak and DuPre, 2008).

Future IYMP research activities could continue to explore key implementation characteristics with the school communities that were involved in the initial ripple of IYMP. This research could inform long-term sustainability of the IYMP and the IYMP CoP by exploring if key characteristics for success remain the same or change over time. This research would contribute to the maintenance and sustainability aspect of implementation science literature (Huebschmann et al., 2019).

Another focus of future research could include adding to the IYMP health outcomes literature that was derived from the pilot study (Eskicioglu et al., 2014). It is important to know if positive health outcomes such as decreased waist circumference, BMI, and healthy living knowledge are sustained long-term to identify the return on investment of funding such health initiatives (Ofasu et al., 2018). Demonstrating positive sustained health outcomes is one way of securing future grant funding or interest from private external funders for programs such as IYMP (Eckerman et al., 2014). Positive return on investment and sustained implementation are key for policy integration of health promotion initiatives in CSH (Eckerman et al., 2014; Gillies et al., 2020).

Additionally, based on the findings of this thesis research that there were fewer male participants in IYMP, it would be important to explore how to recruit and maintain male YAHLs, youth mentors and mentees within IYMP so that the program has a broader reach and is

more gender-equitable. This gap in male mentoring is confirmed by research conducted by the Alberta Mentoring Partnership (2020) organization, that found a gap in male mentors globally.

Finally, it would be important to study the essential characteristics of program success when IYMP transfers from a CUP to a fully autonomous community-run program. Research could include exploration of what characteristics are important for continued sustainability of the program following community autonomy. To make long-term beneficial changes in school settings, it is important to understand how to sustain successful programs without outside support (Potvin et al., 2003).

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APPENDICES

Appendix 1: Youth Mentor/Parent Focus Group Information Sheet and Consent Form

Appendix 2: Youth Mentor Focus Group Interview Guide

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Appendix 4: Young Adult Health Leader Information Sheet and Consent Form

Appendix 5: Young Adult Health Leader Focus Group Interview Guide

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Appendix 7: Principal Investigator Information Sheet and Consent Form

Appendix 8: Principal Investigator Interview Guide

Appendix 1: Youth Mentor/Parent Focus Group Information Sheet and Consent Form

FOCUS GROUP INFORMATION LETTER and CONSENT FORM: YOUTH MENTOR AND PARENT

Study Title: Expanding the Circle: A Peer-Led, Resilience-Based Model of Obesity and Diabetes Prevention for Indigenous Youth

Graduate Student Researcher

Ms. Sabrina Lopresti

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University of Alberta

Edmonton, AB, T6G 1C9

(xxx) xxx-xxxx

Primary Researchers

Dr. Kate Storey and Dr. Noreen Willows

Edmonton Clinic Health Academy

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(xxx) xxx-xxxx

Purpose

The Aboriginal Youth Mentorship Program (AYMP) is a healthy living program. It is based on Indigenous teachings. Youth mentors (usually high school students) deliver the program to grade school students. We would like to learn from youth mentors about their role in the AYMP. We invite you to take part in a focus group with other youth mentors. We will ask mentors to share their experiences with the AYMP team. An aim of this focus group is to find out what helped you to be a youth mentor. We also want to know about any challenges you had. What we learn from you and other mentors can be used to make the AYMP more successful.

We will write down information about your grade, sex and age so that we can describe the participants of the group interview. Personal information such as your name and community will be kept confidential. Others in the focus group will know your name. We will ask everyone in the group to keep what they hear confidential.

The focus group will be recorded so that we know what was said. We will identify themes from the interviews based on what everyone says. You will not be personally identified. Information that identifies you or your community will not be shared with anyone. We will use codes to replace names in any reports. Quoted words and phrases that do not identify you may be used in reports to support the findings.

The focus group is being done by Sabrina Lopresti. Sabrina is doing her PhD at the University of Alberta. She is in the Department Agriculture, Food and Nutritional Science - Human Nutrition Division. By telling Sabrina your experiences with the AYMP, we can improve it in your community and in other communities.

You have the option of being part of an individual interview in the future. If you consent to being contacted after the focus group, Sabrina may interview you about being a youth mentor. This individual interview will allow Sabrina to better understand your experiences with the AYMP. The interview will be in person, or by telephone or skype.

Study Procedures

Participating in this study will involve:

Youth mentors from across Canada will attend an AYMP meeting in Kananaskis, Alberta. The focus group will occur during your stay in Kananaskis in November, 2017. Drinks and snacks will be provided. The focus group will occur in a private room. You and other mentors will share experiences about being a youth mentor. A group of about 5-6 Youth Mentors will take part in the focus group together. The focus group will take about 90 minutes. It will be recorded. Notes will be taken.

Benefits

By being in this research project, you will benefit from sharing your experiences by identifying factors that will improve AYMP delivery in your community. What you say will help us understand the factors that helped or hindered delivery of the AYMP in Year 1.

Risks

There are no known risks to participants in this study.

Voluntary Participation

You do not have to participate in this study. You may refuse to answer any questions in the focus group. If you leave the study, we will not use your information without your written consent. You can leave the study at any time up until the data has been analyzed.

Confidentiality & Anonymity

Any personal information gathered in the interview will be kept strictly confidential. Any published reports will not identify you by name. Your community will not be identified. Only the student researcher, her supervisors and other students on the project will have access to data. Strict protocols will ensure confidentiality of the data.

Electronic information will be password protected. The data collection forms and typed focus groups/interviews will be stored in locked cabinets in the office of a research supervisor. The office is at the Edmonton Clinic Health Academy at the University of Alberta. The address is 11405 87 Avenue, Edmonton, Alberta, Canada T6G 1C9. Data will be kept for 5 years. It will then be destroyed following confidential materials policies at the University of Alberta.

The recorded focus groups/interviews will be typed out. The researchers on this project will explain confidentiality to the person who types out the interview recording. This person will sign a confidentiality agreement.

The results of this study will support Ms. Sabrina Lopresti's doctoral thesis. The research results will appear in a thesis, research articles, and presentations. No personal identifying information will be reported in any of these mediums. If you would like a report of the research findings, email Ms. Lopresti. She will send you a report of the study after it is done.

Further Information

If you have any questions about this study at any time, please contact Ms. Sabrina Lopresti at (xxx) xxx-xxxx, or by email.

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Consent Statement

I have read this form and I understand the research study. I know to contact Ms. Lopresti if I have any questions about the study. I agree to participate in the research study described above. I will receive a copy of this consent form after I sign it.

Participant's Name (printed) and Signature

Date

Parent/Legal Guardian Name (printed) and Signature

Date

If you agree to be contacted in the future to participate in a separate interview about your experiences with the AYMP, please provide an email address and/or phone number where Ms. Lopresti can reach you.

Email address: _____

Phone number: _____

Appendix 2: Youth Mentor Focus Group Interview Guide

Focus Group Topic Guide: Youth Mentors

Thank you everyone for joining me for this focus group discussion. My name is Sabrina Lopresti. My parents immigrated to Canada from Italy decades ago. I was born in Windsor, Ontario. I have a sincere interest in working collaboratively with communities to improve Indigenous health. I am a graduate student at the University of Alberta doing nutrition research, who is a member of the Aboriginal Youth Mentorship Program (AYMP) research team. I have been working in (community name removed to protect community and participant identity) and (community name removed to protect community and participant identity) in Alberta. My research project is to evaluate year 1 of the launch of the AYMP in communities across Canada.

Today I am hoping we can talk a little bit about your experiences as a youth mentor with the Aboriginal Youth Mentorship Program this past year. The AYMP team wants to understand from you the factors which helped to make the program run smoothly, the factors which may have made running the program difficult, and how you felt about being a youth mentor in the program. This information will help the team adjust the program to make it better. It will also help future youth mentors as new programs begin in other communities. As you describe your experience with AYMP, it may be helpful to think about what you learned and would want to share with someone starting as a youth mentor for the first time.

I will be audio recording this session so that I can listen to it later. What is said by participants of this focus group interview will be typed out. [Name] will help me. S/he will make sure the digital recorder is working. S/he will take notes about what happens. S/he will also write down important topics that are brought up on flip chart sheets.

Quoted words and phrases that do not identify you may be used in reports to support the findings. You will never be identified by your name when I write the report. The name of your community will also not be identified. What I learn from you can be used to make the AYMP more successful in the future.

Before we begin, I would like to go over some ground rules that will make our conversation more comfortable for all:

- **We would like you to do the talking.**

- One person speaks at a time.
- I may ask to hear from those who haven't said anything about a topic to make sure that everyone has a chance to share their experiences as a youth mentor. You do not have to answer.
- **There are no right or wrong answers.**
 - Everyone's ideas and experiences are valuable.
 - It's important to hear all sides – including both positives and negatives.
 - We will not always agree, but we must always show respect for one another.
- **What is shared in this room stays in this room.**
 - Please keep everything you hear today confidential.
 - I will summarize themes without identifying individuals by name. Quotes or phrases may be used to support the findings, but will not identify you or your community.

Before we start, do you have any questions? Comments? Concerns? If anything is not clear, please do not be shy to say so, we don't want to proceed until you are all familiar and comfortable with the process.

Are you comfortable with beginning the focus group?

Opening Question (Ice Breaker):

Well, let's begin. We've placed name cards on the table in front of you to help us remember your name. Let's find out about each other by going around the circle using the talking stick.

- If you are comfortable sharing with the group, please tell us your name, the grade level you were in when you were first a youth mentor, and your community. Then, describe your favourite food, and why you like it so much.

Introductory Questions:

1. Using the talking stick, let's go around the circle and describe to the group how the program was generally delivered in your school. (Day of the week, time, months of year)

Now let's have a group conversation about the AYMP without the talking stick.

First, let's reflect on your experiences this past year as a Young Mentor.

- What was it like being a youth mentor with AYMP?

- Tell us what it was like working with elementary students.
- If someone asked you, what would you say about the AYMP program after being part of it in the first year?
- How do you think the program impacted *you*? Please give specific examples of how the program affected you. (Probes: confidence levels, leadership, strengthened social ties, belonging, mastery, independence, and generosity (Brokenleg), respect, relevance, reciprocity, responsibility (Kirkness))
- What helped in delivering the program or made it run more smoothly? In what ways? (Probes: Participation of YAHLS? Participation of Elders? Being supported by school staff? Being encouraged by friends, family, etc.)
- Now, can you share with the group any of the challenges that you experienced as a youth mentor with running the program. How did you deal with them?
- Did anyone else in the group have similar challenges? What did you do about them? (For example, competing interests- sports involvement etc.).
- An important part of the Aboriginal Youth Mentorship program is cultural teachings or traditional teachings. How would you describe these teachings that took place in the AYMP?
- Who usually would be responsible for these teachings?
- Can you please describe what it was like to include traditional/cultural teachings or lessons in the sessions? Please explain further.
- Was it easy or difficult to incorporate traditional teachings or lessons within the sessions? Can you give examples to explain your answer? Was this experience similar for others in the group?
- If you were to give one piece of advice for future youth mentors to help them succeed with the project, what would it be? Can the group think of other pieces of advice for future youth mentors?

Impact of AYMP for elementary students

- Think about last year's program. Please share with the group what you think the *elementary school children* that participated in AYMP would say about it?

- How do you think the program impacted the *elementary school children*? Please give specific examples of how the program affected the children. (Probes: confidence levels, strengthened social ties, belonging, mastery, independence, and generosity (Brokenleg); respect, relevance, reciprocity, responsibility (Kirkness))

Wrap-Up Questions

- Let's finish the session by going around the circle and giving a final thought about what it meant to you to be a youth mentor with the AYMP program.
- Is there anything else about being a youth mentor that you would like to share with the group?
- Is there anything else about the AYMP that you would like to share with the group?
- Would anyone else like to add something?

Additional Probes:

-That's very helpful. Now let's hear someone else's thoughts.

-So what you're saying is X, is that right? Can you expand on X?

-Can you explain that a bit more?

-Just say whatever first comes to your mind.

-Can anyone else add to that thought?

-What would be a good way to overcome that challenge?

-Is there anything I haven't asked that you would like to add or to let me know?

Thank you for participating. I will now have what was said typed out. Then I will analyze the focus group and use the information in reports and presentations about Year 1 of the AYMP. If you have agreed to being contacted in the future, I may ask you to participate in a future interview. This will allow me to gain an even better understanding of your experiences with the AYMP. Does anyone have any questions about this process?

Appendix 3: Youth Mentor Follow-up Interview Guide

Interview Topic Guide: Youth Mentor

Thank you again for taking part in the focus group in Kananaskis in November. At that time, I explained that I may follow up with you to get a better understanding of what was said during the focus group.

Today I am hoping we can expand and talk a little bit more about your experiences as a Youth Mentor with running the Aboriginal Youth Mentorship Program last year. Let's do this by going back and talking more about what you told me during the focus group. Just as a reminder of what we had discussed in November, I asked the group questions to understand the factors which helped to make the program run smoothly, the factors which may have made running the program more difficult, and any successes and challenges that you experienced with running the program. We also talked about cultural aspects of AYMP. This information will help the team revise the program to make it better. It will also help future Youth Mentors as new programs emerge.

I will be audio recording this session as I did for the focus group so that I can listen to it later. This interview will later be typed out. Quoted words and phrases that do not identify you may be used in reports to support the findings. You will never be identified by your name when I write the report. The name of your community will also not be identified. What I learn from you can be used to make the AYMP more successful in the future.

Before we begin, I would like you to know:

- **You do not have to answer anything you don't want to.**
 - **There are no right or wrong answers.**
 - **What you share with me will remain confidential.**
-
- I will summarize themes without identifying you by name. Quotes or phrases may be used to support the findings, but will not identify you or your community.

Before we start, do you have any questions? Comments? Concerns? If anything is not clear, please do not be shy to say so, we don't want to begin until you are familiar and comfortable with the process.

Are you comfortable with beginning the interview?

Key Questions:

- 1.) I'd like to go back and talk more about what had been discussed in the focus group about barriers to running the program. Would you please tell me more about any of the challenges that you had in running the program? (Probes dependant on interviewee's responses).
- 2.) Will you share with me what you think were the factors that really help to make program delivery easier? (Probes dependant on interviewee's responses).
- 3.) In the focus group you had talked about the cultural aspects of the program. Can you tell me more about this so I have a better understanding of how you included culture as part of the program? (Probes dependant on interviewee's responses).

Wrap-Up Questions

- Is there anything else about being a YM last year that you would like to share with me that you didn't discuss in the focus group or with me today?

Thank you again for participating in this interview and the focus group. I will now have the audiotapes typed out. Then I will analyze them and use the information in reports and presentations about Year 1 of the AYMP. Do you have any questions about this process before we end our time together?

Thank you!

Appendix 4: Young Adult Health Leader Information Sheet and Consent Form

FOCUS GROUP INFORMATION LETTER and CONSENT FORM

Study Title: Expanding the Circle: A Peer-Led, Resilience-Based Model of Obesity and Diabetes Prevention for Indigenous Youth

Graduate Student Researcher

Primary Researchers

Ms. Sabrina Lopresti

Dr. Kate Storey and Dr. Noreen Willows

Edmonton Clinic Health Academy

Edmonton Clinic Health Academy

University of Alberta

University of Alberta

Edmonton, AB, T6G 1C9

Edmonton, AB, T6G 1C9

(xxx) xxx-xxxx

(xxx) xxx-xxxx

Purpose

The Aboriginal Youth Mentor Program (AYMP) is a healthy living program. It is based on Indigenous teachings. Indigenous youth deliver the program to elementary students. Young adults like you mentor the youth. You are invited to participate in a focus group interview of Young Adult Health Leaders. As part of a focus group interview we will ask you to share your experiences with the AYMP program this past year. We want to understand from you the factors which helped to make the program run smoothly, the factors which may have made running the program more difficult, and any successes and challenges that you experienced with running the program. What we learn from you can be used to make the AYMP more successful in the future. We will record information such as your age, your community, your gender and your experiences while taking part in AYMP in Year 1. Personal information such as your name and community will be kept confidential. It will not be shared with anyone. We will use codes to replace names in any reports. Quoted words and phrases that do not identify you may be used in reports to support the findings. Those participating in the group interview with you will know your name. We will ask everyone in the group to keep what they hear confidential.

The focus group interview is being done by Sabrina Lopresti. Sabrina is a graduate student at the University of Alberta. She is in the Department Agriculture, Food and Nutritional Science-Human Nutrition Division. By telling Sabrina your experiences with the AYMP, we can improve the AYMP in your community and in other communities. If you have consented to being contacted in the future, Sabrina may ask you to participate in a future interview. This will allow her to gain an even better understanding of your experiences with the AYMP.

Study Procedures

Participating in this study will involve:

Young Adult Health Leader (YAHL) training will occur in Manitoulin Island, Ontario in September 2017. A focus group interview will be held at that time for YAHLs who participated in Year 1 of AYMP delivery. Light refreshments will be provided. You will be asked to share your experiences related to being a Young Adult Health Leader. A group of 4-6 YAHLs will be interviewed together and asked to share their experiences. The focus group interview will take about 60 minutes. It will be audio-recorded. Notes will be taken.

Benefits

You will not get any direct benefits from being in this research project. Your input will improve our understanding of the delivery of the AYMP in Year 1.

Risks

There are no known risks to participants in this study.

Voluntary Participation

You do not have to participate in this study. You may refuse to answer any questions in the focus group interview even if participating in the study. If you leave the study, we will not use your information without your written consent. You can leave the study at any time up until October 31, 2017.

Confidentiality & Anonymity

Any personal information gathered in the interview will be kept strictly confidential. Quoted words and phrases that do not identify you may be used in reports to support the findings. Any published reports will not identify you by name. Only the student researcher, her supervisors and other student on the project will have access to data.

Electronic information will be password protected. The data collection forms and typed interviews will be stored in locked cabinets in the office of the research supervisor, located at the University of Alberta, Edmonton Clinic Health Academy, 11405 87 Avenue, Edmonton, Alberta, Canada T6G 1C9, for a period of 5 years. Confidentiality will be kept during shredding by following confidential materials policies at the University of Alberta.

The researchers on this project will explain confidentiality to the person(s) who types out the recording of the interview. This person will sign a confidentiality agreement.

The results of this study will support Ms. Sabrina Lopresti's doctoral thesis. The research results will be reported in a thesis, research articles, and presentations. No personal identifying information will be reported in any of these mediums. If you would like a report of the research findings, email Ms. Lopresti and she will forward you a report of the study after its completion.

Further Information

If you have any questions regarding this study at any time, please contact Ms. Sabrina Lopresti at (xxx) xxx-xxxx, or by email.

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have any questions, I have been told who to contact. I agree to participate in the research study described above and will receive a copy of this consent form after I sign it.

Participant's Name (printed) and Signature

Date

Name (printed) and Signature of Person Obtaining Consent

Date

If you agree to be contacted in the future to participate in a separate interview about your experiences with the AYMP, please provide an email address and/or phone number where Ms. Lopresti can reach you.

Email address: _____

Phone number: _____

Appendix 5: Young Adult Health Leader Focus Group Interview Guide

Focus Group Topic Guide: YAHL

Thank you everyone for joining me for this focus group discussion. My name is Sabrina Lopresti. My parents immigrated to Canada from Italy decades ago. I was born in Windsor, Ontario. I have a sincere interest in working collaboratively with communities to improve Indigenous health. I am a graduate student at the University of Alberta doing nutrition research, who is a member of the Aboriginal Youth Mentorship Program (AYMP) research team. I have been working in (community name removed to protect community and participant identity) and (community name removed to protect community and participant identity) in Alberta. My research project is to evaluate year 1 of the launch of the AYMP in communities across Canada. Today I am hoping we can talk a little bit about your experiences with running the Aboriginal Youth Mentorship Program this past year. The AYMP team wants to understand from you the factors which helped to make the program run smoothly, the factors which may have made running the program more difficult, and any successes and challenges that you experienced with running the program. This information will help the team revise the program to make it better. It will also help future young adult leaders as new programs emerge. As you describe your experience, it may be helpful to think about what you learned and would want to share with someone starting a program for the first time.

I will be audio recording this session so that I can listen to it later. Notes will be taken and what is said by participants of this focus group interview will be typed out. Quoted words and phrases that do not identify you may be used in reports to support the findings. You will never be identified by your name when I write the report. The name of your community will also not be identified. What I learn from you can be used to make the AYMP more successful in the future.

Please help yourself to refreshments. Before we begin, let's discuss how we might make this a comfortable discussion for everyone.

- **We would like you to do the talking.**

- One person speaks at a time.
- I may ask to hear from those who haven't said anything about a topic to make sure that everyone has a chance to share their experiences as a YAHL. You do not have to answer.

- **There are no right or wrong answers.**

- Everyone's ideas and experiences are valuable.
- It's important to hear all sides – including both positives and negatives.
- We will not always agree, but we must always show respect for one another.

- **What is shared in this room stays in this room.**

- Please keep everything you hear today confidential.
- We will summarize themes without identifying individuals by name. Quotes or phrases may be used to support the findings, but will not identify you or your community.

Before we start, do you have any questions? Comments? Concerns? If anything is not clear, please do not be shy to say so, we don't want to proceed until you are all familiar and comfortable with the process.

Are you comfortable with beginning the interview?

Opening Question (Ice Breaker):

Well, let's begin. We've placed name cards on the table in front of you to help us remember your name. Let's find out some more about each other by going around the circle using the talking stick

- If you are comfortable sharing with the group, please tell us your name, where you live and in one sentence describe your favourite food.

Introductory Questions:

- Using the talking stick, let's go around the circle and describe to the group how the program was generally delivered in your school. (Day of the week, time, months of year)

Now let's have a group conversation about the AYMP without the talking stick.

Key Questions:

Let's reflect now on your experiences this past year as a Young Adult Health Leader.

- What was it like being a Young Adult Health Leader with the Aboriginal Youth Mentorship Program?
- Tell us what it was like working with teenagers.
- What specific strategies did you use to train the high school mentors to prepare them to deliver the program?
- How did you help support them to run the program?
- Please tell the group about the factors which helped you the most in delivering the program? (For example, which things helped the most when working with the children and youth mentors, in providing snacks to the children and physical activity programming, etc.?)
- Please tell the group about any challenges that you faced in delivering the program in your school last year.
 - Challenges related to participation of children or youth mentors?
 - Challenges related to logistics such as transporting children or road closures?
 - Challenges related to snack or physical activity programming?

- Do you think these challenges could be overcome in year 2 of the program? If so, how?
- An important part of the Aboriginal Youth Mentorship program was cultural teachings.
- How were traditional teachings or lessons incorporated into the AYMP in your school? What types of teaching happened? Who gave those teachings or lessons?
- Can you please describe what it was like to include traditional teachings or lessons in the sessions? Please explain further.
- Now that we have discussed the running of the AYMP last year, let's reflect on the training that you received to be a Young Adult Health Leader before the program started. Looking back, how would you describe the training you received to be a Young Adult Health Leader for the AYMP program in your community?
 - In what ways did it prepare you?
 - What do you think was missing from the training?
- Suppose that you were in charge and could make one change that would make the YAHL training program better. What change would that be?

Now let's discuss how the AYMP impacted elementary school children and high school mentors.

- What do you think the *elementary school children* that participated in the AYMP at your school would say about it?
- How do you think the program impacted the *elementary school children*? Please give specific examples of how the program impacted the children. (confidence levels,

strengthened social ties, belonging, mastery, independence, and generosity (Brokenleg), respect, relevance, reciprocity, responsibility (Kirkness).

- What do you think the *youth mentors* would say about the AYMP at your school?
- How do you think the program impacted the *youth mentors*? Please give specific examples of how the program impacted them. (confidence levels, leadership, strengthened social ties, belonging, mastery, independence, and generosity (Brokenleg), respect, relevance, reciprocity, responsibility (Kirkness).)

Wrap-Up Questions

- Is there anything else about being a YAHL that you would like to share with the group?
- Is there anything else about the AYMP that you would like to share with the group?
- Would anyone else like to add something?

Additional Probes:

- That's very helpful. Now let's hear someone else's thoughts.
- So what you're saying is X, is that right? Can you expand on X?
- Can you explain that a bit more?
- Just say whatever first comes to your mind.
- Can anyone else add to that thought?
- What would be a good way to overcome that challenge?
- Is there anything I haven't asked that you would like to add or to let me know?

Thank you for participating. I will now have the audiotapes typed out. Then I will analyze them and use the information in reports and presentations about Year 1 of the AYMP. If you have consented to being contacted in the future, I may ask you to participate in a future interview.

This will allow me to gain an even better understanding of your experiences with the AYMP.

Does anyone have any questions about this process?"

Appendix 6: Young Adult Health Leader Follow-up Interview Guide

Interview Topic Guide: YAHL

Thank you again for taking part in the focus group in September. At that time I explained that I may follow up with you to get a better understanding of what was said during the focus group.

Today I am hoping we can expand and talk a little bit more about your experiences with running the Aboriginal Youth Mentorship Program this past year. Let's do this by going back and talking more about what you told me during the focus group. Just as a reminder of what we had discussed in September, I asked the group questions to understand the factors which helped to make the program run smoothly, the factors which may have made running the program more difficult, and any successes and challenges that you experienced with running the program. This information will help the team revise the program to make it better. It will also help future young adult leaders as new programs emerge.

I will be audio recording this session as I did for the focus group so that I can listen to it later. This interview will later be typed out. Quoted words and phrases that do not identify you may be used in reports to support the findings. You will never be identified by your name when I write the report. The name of your community will also not be identified. What I learn from you can be used to make the AYMP more successful in the future.

Please help yourself to refreshments. Before we begin, I would like you to know:

- **You do not have to answer anything you don't want to.**
 - **There are no right or wrong answers.**
 - **What you share with me in this room will remain confidential.**
- I will summarize themes without identifying individuals by name. Quotes or phrases may be used to support the findings, but will not identify you or your community.

Before we start, do you have any questions? Comments? Concerns? If anything is not clear, please do not be shy to say so, we don't want to proceed until you are all familiar and comfortable with the process.

Are you comfortable with beginning the interview?

Key Questions:

- 4.) I'd like to go back and talk more about what you had discussed was a barrier (s) to the program. Would you please expand further on what you had discussed in the focus group was a challenge to program delivery? (Probes dependant on interviewee's responses).
- 5.) Please expand further on the factors you had discussed that really help to make program delivery easier. (Probes dependant on interviewee's responses).

- 6.) You had mentioned what your program does in relation the cultural aspects of the program. Would you expand on what you had said in the focus group for me so I have a better understanding of this?

Wrap-Up Questions

- Is there anything else about being a YAHL last year that you would like to share with me that you haven't discussed in the focus group or here with me today?

Thank you again for participating in this interview and the focus group. I will now have the audiotapes typed out. Then I will analyze them and use the information in reports and presentations about Year 1 of the AYMP. Do you have any questions about this process before we end out time together?

Appendix 7: Principal Investigator Information Sheet and Consent Form

KEY INFORMANT (PRINCIPAL INVESTIGATOR) INTERVIEW INFORMATION LETTER and CONSENT FORM

Study Title: Expanding the Circle: A Peer-Led, Resilience-Based Model of Obesity and Diabetes Prevention for Indigenous Youth.

Graduate Student Researcher

Primary Researchers

Ms. Sabrina Lopresti

Dr. Kate Storey and Dr. Noreen Willows

Edmonton Clinic Health Academy

Edmonton Clinic Health Academy

University of Alberta

University of Alberta

Edmonton, AB, T6G 1C9

Edmonton, AB, T6G 1C9

(xxx) xxx-xxxx

(xxx) xxx-xxxx

Purpose

You are invited to participate in key informant interviews with Principal Investigators (PIs) of the study called *Expanding the Circle: A Peer-Led, Resilience-Based Model of Obesity and Diabetes Prevention for Indigenous Youth*. As part of the interview I will ask you to share your perspectives as a Principal Investigator on factors involved in negotiating a partnership with a community (or communities) that participated in the Indigenous Youth Mentorship Program (IYMP). We want to understand from you which attributes you perceive as essential when partnering with an Indigenous community? What we learn from you can be used to help other community-university partnerships successfully develop in future years.

We will record information such as your occupation and role with IYMP and your experiences establishing the community partnership. Personal information such as your name and community name will be kept confidential. It will not be shared with anyone. We will use codes to replace personal and community names in any written reports and publications, or conference presentations. Quoted words and phrases that do not identify you may be used to support the findings.

The key informant interviews are being done by Sabrina Lopresti. Sabrina is a PhD candidate at the University of Alberta. She is in the Department Agricultural, Food and Nutritional Science-Human Nutrition Division. By telling Sabrina your perceptions of the community partnership within IYMP, we can improve the rippling of IYMP to other communities.

Study Procedures

Key informant interviews of Principal Investigators (PIs) will occur in Calgary, Alberta in March 2019 during the National Gathering of PIs, trainees and IYMP community members.

Alternatively, interviews for those unable to attend the conference will occur in a private room, by telephone. Light refreshments will be provided for in-person interviews. You will be asked to share your perceptions related to your role in IYMP and establishing your community partnership. PIs will be interviewed individually and will be asked to share their experiences with partnering communities. Each key informant interview will take about 45-60 minutes. It will be audio-recorded, and then later transcribed. Notes will be taken.

Benefits

You will not get any direct benefits from being in this research project. Your input will improve our understanding of stakeholders' perceived factors essential in establishing partnerships within Indigenous communities of IYMP.

Risks

There are no known risks to participants in this study.

Voluntary Participation

You do not have to participate in a key informant interview. If you participate, you may refuse to answer any questions in the interview. If you stop or leave the interview, we will not use your information without your written consent. You can have your interview removed from this study at any time up until July 30, 2019.

Confidentiality & Anonymity

Any personal information gathered in the interview will be kept strictly confidential. Quoted words and phrases that do not identify you may be used in reports to support the findings. Any published reports or presentations will not identify you by name. Only the student researcher, her supervisor and her supervisory committee will have access to the data.

Electronic information will be password protected. The data collection forms and typed interviews will be stored in locked cabinets in the office of the research supervisor, located at the University of Alberta, Edmonton Clinic Health Academy, 11405 87 Avenue, Edmonton, Alberta, Canada T6G 1C9, for a period of 5 years. Confidentiality will be kept during shredding procedures by following confidential materials policies at the University of Alberta.

The researchers on this project will explain confidentiality to the person(s) who types out (transcribes) the recording of the interview. This person will sign a confidentiality agreement.

The results of this study will support Ms. Sabrina Lopresti's doctoral thesis. The research results will be reported in a thesis, research articles, and presentations. No personal identifying information will be reported in any of these mediums. If you would like a report of the research findings, email Ms. Lopresti and she will forward you a report of the study after its completion.

Further Information

If you have any questions regarding this study at any time, please contact Ms. Sabrina Lopresti at (xxx) xxx-xxxx, or by email.

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have any questions, I have been told who to contact. I agree to participate in the research study described above and will receive a copy of this consent form after I sign it.

Participant's Name (printed) and Signature

Date

Name (printed) and Signature of Person Obtaining Consent

Date

Appendix 8: Principal Investigator Interview Guide

Interview Topic Guide: Principal Investigator

Thank you for taking part in this key informant interview.

Today I am hoping we can talk a little bit more about your perspectives as a Principal Investigator on factors involved in negotiating a partnership with a community (or communities) that participated in the Indigenous Youth Mentorship Program (IYMP). What we learn from you can be used to help other community-university partnerships successfully develop in future years. I will be audio recording this session so that I can listen to it later. This interview will later be typed out. Quoted words and phrases that do not identify you may be used in reports to support the findings. Personal information such as your name and community name will be kept confidential. It will not be shared with anyone. We will use codes to replace personal and community names in any written reports and publications, or conference presentations. Quoted words and phrases that do not identify you may be used to support the findings.

Please help yourself to refreshments. Before we begin, I would like you to know:

- **You do not have to answer anything you don't want to.**
- **There are no right or wrong answers.**
- **What you share with me in this room will remain confidential.**

Before we start, do you have any questions? Comments? Concerns? If anything is not clear, please do let me know. I will not proceed until you are familiar and comfortable with the process.

Are you comfortable with beginning the interview?

Key Questions:

- 7.) What is your role with IYMP? (Probes dependant on interviewee's responses).

- 8.) Please tell me which attributes you perceive as essential in negotiating partnerships with communities? (Probes dependant on interviewee's responses).
- 9.) Which factors contributed to the success of partnership during IYMP implementation?
- 10.) What challenges arose in negotiating partnership during IYMP implementation?

Wrap-Up Questions

- Is there anything else about being a stakeholder with IYMP that you would like to share with me today?

Thank you again for participating in this key informant interview. I will now have the audiotapes typed out. Then I will analyze them and use the information in reports and presentations about which attributes you perceive as essential when partnering with an Indigenous community. Do you have any questions about this process before we end out time together?