Developing Methodologies for First Nations Community Surveys: Considerations for the External Researcher

by

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Ethics Statement

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Abstract

Indigenous communities require good data for planning, development and the advancement of self-determination. Unfortunately, there is a lack of disaggregated data available for Indigenous peoples in Canada, especially at the community level. First Nations community surveys provide a tool to address this data gap by collecting culturally relevant community-specific data. However, although survey research methods are well documented in the literature, there is little information specific to survey methods in the Indigenous context. This research provides considerations and guidelines for methodologies specific to First Nations community surveys based on four case studies and a literature review of the general survey research methods. Findings illustrate that the survey guidelines from the literature cannot be applied directly to First Nations community surveys without modification. Recommended modifications include community involvement and modifying methods to incorporate and reflect the specific characteristics and interests of the First Nations community.

Keywords: Community surveys; First Nations; survey methods; community-specific data; Indigenous; data

For my mother, Elisabeth.

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List of Acronyms

ABS	Australian Bureau of Statistics
AGM	Annual General Meeting
APS	Aboriginal Peoples Survey
ACS	Aboriginal Children's Surveys
BC	British Columbia
BP	Best Practice
CBPR	Community Based Participatory Research
CCHS	Canadian Community Health Survey
CCP	Comprehensive Community Plan
CEM	Cumulative Effects Management
EA	Environmental Assessment
FNC	First Nations Council
FNDGI	First Nations Data Governance Initiative
FNIGC	First Nations Information Governance Center
FNREES	First Nations Regional Early Child Education and Employment Survey
MMC	Metlakatla Membership Census
OCAP	Ownership Control Access and Possession
RHS	Regional Health Survey
SFU	Simon Fraser University
UBC	University of British Columbia
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples

Chapter 1.

Introduction

1.1. Research Context

Good data are essential for effective community planning. They allow governments, elected representatives, community leaders and managers to make evidence-based decisions concerning budgets, policies, programs and services (Ontario Human Rights Commission (OHRC), 2010). Data can accurately benchmark current conditions in communities, demonstrate need, and produce more persuasive requests for funding (OHRC, 2010). Data that have been collected over multiple years allow communities to track and assess progress over time, and to engage in more meaningful consultations around various policies, programs and initiatives (OHRC 2010; Steffler, 2016).

The importance of data for advancing Indigenous self-determination and the inherent right of self-government is widely recognized (First Nations Information Governance Center (FNIGC), 2014; Kukutai & Taylor, 2016; Schultz & Rainie, 2014). In writing about data in the context of American Indian Tribes, Schultz and Rainie (2014) describe data as a strategic resource:

> Data about citizens and community members is a strategic resource. Reliable data, carefully gathered and analyzed, can strengthen the ability of tribes to pursue their own goals. Armed with dependable and relevant information, tribes can be strategic, envisioning a role for data as part and parcel of sovereignty and governance. They can be responsive, initiating projects to address emerging needs. They can be culturally authoritative, asserting control over which topics are measured, and how (Schultz & Rainie, 2014 p. 1)

In Canada, quality data are important in supporting Indigenous nations and are needed to address the well-being gaps that exist between Indigenous and non-Indigenous populations (Steffler, 2016). The Truth and Reconciliation Commission of Canada (2015) highlighted this need, calling for research, policy development, monitoring and evaluation, and annual reporting on health and socio-economic indicators in order to close the gaps between Indigenous and non-Indigenous

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populations. Large amounts of data are available for the non-Indigenous population, yet there remains a lack of disaggregated data for Indigenous peoples, especially at the Indigenous community level (Steffler, 2016). Contributing factors include an absence of Indigenous identifiers and insufficient representation due to sampling methodologies (Steffler, 2016). In addition, many surveys that collect information on the general Canadian population do not collect data that Indigenous peoples would consider to be culturally relevant, making it difficult to fully understand the factors effecting Indigenous health and socio-economic conditions (Steffler, 2016). Acquiring Indigenous-specific data therefore plays a critical role in improving socio-economic outcomes for First Nation, Metis, and Inuit people in Canada (Steffler, 2016).

First Nations in Canada have experienced a long history of colonialism and culturally destructive practices that have created inter-generational trauma and a variety of social issues, including high unemployment, barriers to self-government, and a disconnect from cultural activities and traditional economies (FNIGC, 2014). In recent years this context has shifted as First Nations have asserted and affirmed their Aboriginal and treaty rights through the courts and have developed stronger relationships with provincial and federal governments. The Government of Canada has recently committed to achieving reconciliation and engaging with First Nations on a Nation-to-Nation level (Government of Canada, 2018). First Nation governments are working with provincial and federal governments to address, among other things, the socio-economic data gaps that continue to persist. First Nations are taking a self-governing, community driven and nation-based approach to development and wellness, and in doing so, First Nations are implementing their own 'data agendas' by gathering high quality, culturally relevant information about their communities (British Columbia First Nations Data Governance Initiative (BCFNDGI), 2015; Schultz & Rainie, 2014).

Indigenous peoples of Canada are widely diverse in culture, language and location: there are hundreds of culturally distinct First Nations, Metis and Inuit communities with distinct histories, socio-economic conditions, and development goals (Ball & Janyst, 2008). Given this diversity, targeted community-level data and policy development are necessary to ensure unique needs and values are represented (Steffler, 2016). However, many First Nations in British Columbia (BC) are faced with the challenges of scarcity and appropriateness of data (BCFNDGI, 2015). Until recently, data on First Nation populations have generally been developed by others—usually

federal and provincial governments. Much of the data that existed for First Nation communities were from large-scale regional or national surveys that were not representative of the conditions in, and values of, individual communities.

First Nation governments, like other governments, are decision-making bodies that require reliable information about their citizens (FNIGC, 2015). A lack of accurate and relevant data disaggregated at levels required for sound Indigenous policy presents a significant barrier to successful self-government (Rodriguez-Lonebear, 2016). In response, First Nations have started to collect targeted, culturally relevant data through community census programs and other surveys. This issue is not unique to Indigenous peoples of Canada but is a larger problem faced by Indigenous peoples around the world. Indigenous groups of different countries have responded with similar solutions. For example, faced with a lack of relevant data, the Yawuru people of Broome, Australia began collecting and managing their own demographic and socioeconomic data through community-driven projects, including community surveys (Jelfs, 2016).

Data gathered through First Nation community surveys provide a number of benefits. Reliable, community-level data allow First Nations to develop, track and manage their own goals (Schultz & Rainie, 2014). Community survey data allow First Nation communities to be responsive to the development occurring around their traditional territories, and to initiate programs that address emerging needs (FNIGC, 2014; Schultz & Rainie, 2014). These data are more culturally relevant, allowing control over which topics are measured and how they are measured (Schultz & Rainie, 2014). This benefit is especially pertinent with respect to environmental assessments (EAs). EAs are increasingly important as Canada's western and northern regions are facing increased demands for resource exploitation and industrial development, especially in the energy sectors (Udofia et al., 2015). As a result, First Nations are seeing numerous large-scale development projects proposed in their traditional territories, with future projections indicating the number of projects will continue to rise. Community-level data are increasingly necessary for First Nations to be able to meaningfully participate in EAs and other decision-making processes related to development projects. Without community-specific data, socio-economic assessments conducted as part of the EA rely upon regional statistics in order to determine baseline conditions for measures such as employment, health and other social issues (Plate et al., 2009). Community-level data, especially data collected over time, would allow First Nations to more meaningfully

participate in EAs. with a better understanding of how they will be affected by a project, First Nations can make more informed decisions about supporting or opposing projects and can better identify what conditions are needed to mitigate impacts if the project goes ahead.

While First Nation community survey initiatives highlight the inadequacy of existing data, they also provide an opportunity for external agencies to collaborate with Indigenous groups on official data collections, as well as to assist in community-led projects (Jelfs, 2016). Some First Nations have conducted community surveys entirely through internal means, while others have chosen a partnership approach, working together with universities, consultants, or other external organizations to carry out the survey. When partnership approaches for First Nations community surveys are pursued, it is essential that external researchers follow ethical and respectful research procedures (Koster et al., 2012). Due to past misconduct of research in First Nation communities by external researchers and the resulting grievances that are still felt today, it is especially important that researchers working with or for First Nations on community surveys incorporate community participation in a meaningful way for all stages of the research process and acknowledge the validity of Indigenous ways of knowing (Bingham, 2013).

Meaningful collaboration in data collection means respecting the goals and values of Indigenous communities, as well as their processes and protocols of data collection and research activities (Steffler, 2016). The United Nations Permanent Forum on Indigenous Issues (UNPFII) recommends that data collection activities for Indigenous people should include participation in all stages of the data collection, including planning, implementation, analysis, and dissemination, and ensuring sufficient resourcing and capacity-building to do so (Bishop, 2016). There must be mutual understanding at the outset of the research project about how information will be collected, developed, stored and used. Properly engaging with the Indigenous community helps to ensure that methods are culturally relevant and reflect the specific needs of the community (Drawson & Toombs, 2017).

My research examines the primary approach First Nations have used to overcome the challenge of scarcity of culturally relevant and useful data: conducting First Nation community surveys. Specifically, I focus on survey methodologies used in First Nation community surveys and compare them to the general survey guidelines that

exist in the literature. Although much literature on general survey research methodology exists, and standard guidelines have been developed, there is little specific information about how to conduct survey research in First Nation communities. The research used to inform survey guidelines is mostly from large-scale survey programs and has been developed in a non-Indigenous context. As more First Nations look to collect targeted data on their communities, the lack of guidelines for First Nations survey research presents a barrier to this important work. Indigenous survey methods will inevitably be diverse, reflecting the diversity of the communities using them (Drawson & Toombs, 2017; McGregor, 2010). However, having access to information about the methodologies used in past First Nations community surveys provides a foundation that can help to inform future surveys. This knowledge, shared between communities and survey administrators, helps to ensure that mistakes from past surveys are not repeated and that lessons learned are built upon.

1.2. Overview of Research Objectives and Activities

The objectives of this research are to document survey methodologies used in First Nations community surveys in Canada and to provide recommendations specific to survey research with or for First Nation communities. This topic is largely absent from the literature on general survey research methodology, an issue which I discovered during my own experience of working for a First Nation to help develop and administer a community survey. After completing this work and recognizing the need for survey research literature to include Indigenous-specific methods, I dedicated my research to exploring this topic further in order to provide guidance for future researchers who are working on First Nations community surveys. To do so, this study will examine multiple case studies of First Nations community surveys, describe individual survey design components for each, and identify strengths and weaknesses. The research is designed to answer the following question: *How should survey research be designed and conducted in First Nation communities?*

Ultimately, these types of surveys are best placed to be carried out by the First Nation for the First Nation. However, while some First Nations have taken an internal approach, other First Nations, depending on resources, capacity and research priorities, may choose to partner with academic institutions or consulting firms to carry out the survey. My research is intended to provide practical considerations for external

researchers working with a First Nation to undertake a community survey, or for a First Nation conducting a survey through internal means but looking for guidance on methodological approaches. First and foremost, the surveys should follow all methods, protocols or guidelines set out by the community. However, First Nations that are conducting surveys for the first time may not have developed survey research guidelines for their community. It is for these cases that I hope to highlight important considerations and recommendations for how to design a good survey, and how to approach the research in a respectful and ethical way. In addition, my recommendations may be useful to those First Nations that have already developed survey research guidelines, as they assess and improve their guidelines over time.

The objectives of this research will be met by conducting a review of the literature on survey methodology guidelines, collecting information about First Nations community surveys through case studies, comparing methods recommended in the guidelines to the methods used in First Nations community surveys, and developing specific guidelines for how to design and administer a First Nations community survey. The literature review of survey methodology research will identify best practices by outlining key survey design components, options and guidelines. Next, I will describe current and past survey research relating to First Nations and the data gaps that still exist. I will then discuss four case studies that I conducted of First Nations community surveys, describe the methodologies used and compare key survey design components. In the fourth step, I compare the guidelines for general survey research with the methods used in the First Nations community surveys in order to determine how applicable they are and what similarities and differences exist. I use findings from this comparison to highlight common themes, important considerations, and recommendations for conducting survey research that is specific to First Nations communities. I conclude by summarizing the findings as a set of guidelines and discuss limitations of the research and areas for future research.

1.3. Report Structure

The second chapter of this report summarizes the survey methodology literature and identifies key survey design components. For each component, options and guidelines are described. In Chapter 3, I review current and historical surveys and research programs that have collected data from Indigenous people, including First

Nations in Canada. This includes national level surveys that include First Nations and other Indigenous peoples, national and regional surveys that are specific to Indigenous people, and community-level surveys that First Nations have conducted. Four case studies of First Nations community surveys are then introduced and compared through a summary table of key survey design components. In Chapter 4, I compare methods used in the case studies to the guidelines available in the literature, highlighting differences and similarities, and identifying effective methods. In Chapter 5, I discuss important themes and considerations for survey research in First Nation communities, describe what worked well and what did not for the surveys in the case studies and provide a set of guidelines that summarize the common themes and considerations. Chapter 5 ends with a discussion of the limitations of the research and directions for future research, and a conclusion.

Chapter 2.

General Survey Methods: Guidelines and Recommendations

2.1. Survey Research

Survey research involves gathering information from people, often from large samples of the population (De Leeuw et al., 2008). Statistics Canada defines survey research as "any activity that collects information in an organized and methodical manner about characteristics of interest from some or all units of a population using well-defined concepts, methods and procedures, and compiles such information into a useful summary form" (Statistics Canada, 2010 p.1). Surveys collect, organize, and analyze data in order to describe a snapshot in time (de Vaus, 2014; Glasow, 2005).

Generally, surveys are initiated when there is a need for information to fill gaps in existing data (Statistics Canada, 2010). The survey instrument is a data collection tool used to conduct survey research (Glasow, 2005). Surveys provide a way to answer questions, assess needs, establish goals, determine baselines against which future comparisons can be made, and analyze trends across time (Issac & Michael, 1997). Surveys describe populations by asking questions about the characteristics, actions, or opinions from a sample of people or the entire population (Floyd & Fowler, 2014; Pinsonneau & Kraemer, 1993). Surveys are considered one of the best ways to get information and feedback to use in planning and program improvement (Thayer-Hart et al., 2010).

Survey research has many benefits. Surveys can be used to study any type or number of variables, collect information from large populations, gather information about attitudes that are difficult to measure with other data collection techniques and obtain demographic data that can be used to describe the composition of the sample (Glasow, 2005). Survey research also has a number of weaknesses. One of the main issues surrounding survey research is bias. Bias can occur from a lack of responses from intended participants, or from the inaccuracy (intentional or otherwise) of the responses received (Glasow, 2005). In certain circumstances error can stem from participants

intentionally misreporting behaviours, or having difficulty assessing or recalling behaviour (Glasow, 2005). In addition, data produced by survey research can lack depth or detail on the topic being researched (Kelley et al., 2003).

While conducting a survey may seem deceptively simple, undertaking a survey raises many complex questions that can be difficult to answer (De Leeuw et al., 2008). Designing a survey involves multiple stages, and each stage impacts the overall success of the survey (De Leeuw et al., 2008). Focus is often incorrectly placed solely on the survey instrument rather than the entire survey process. However, defining the survey objectives, developing a sample frame, designing the questionnaire, specifying the strategy for data collection and appropriately analyzing the data all influence the overall success of a survey (Floyd & Fowler, 2009; Schonlau et al., 2002). Ultimately the quality of the data will be no better than the most error-prone feature of the survey design, and thus it is important to carefully consider each component (Floyd & Fowler, 2009).

Surveys can be broken down into the following ten stages (Statistics Canada, 2010):

- Defining goals and objectives

- Determining administrative structure

- Determining sample design

- Choosing a method of data collection

- Designing the questionnaire

- Incentives for participation

- Piloting

- Collecting data

- Analyzing and disseminating the data

- Documenting and evaluating the survey

For each stage survey methodology guidelines have been developed and modified over time to reflect the best practices based on experience. For many of the

stages, there is not a single option that is considered best across all situations. Instead there are sets of guidelines and principles that allow the researcher to decide which option is best based on the individual goals of the survey, the population of interest, and the resources available to carry out the survey.

The guidelines in this project are drawn from commonly cited survey methodology books, articles and documents that provide a comprehensive review of all survey design components and guidelines, and from findings of peer-reviewed meta-analyses that look at specific aspects of the survey process, such as different types of incentives. The main comprehensive texts which cover all aspects of survey research that are used in this project are Statistics Canada's 'Survey Methods and Practices' (Statistics Canada, 2010) Dillman's 'Internet, Phone, Mail and Mixed-Mode Surveys' (Dillman et al., 2014) and de Leeuw's 'International Handbook of Survey Research' (De Leeuw et al., 2008). These three major documents are frequently relied upon by those carrying out survey research. They provide information on lessons learned from years of survey research and the authors continue to review and update their texts as new insights emerge.

2.2. The Survey Process

2.2.1. Setting Goals

The first step in the survey process is determining goals, defining research objectives and outlining key research questions (De Leeuw et al., 2008). For each research question, one or more corresponding survey questions are developed for the questionnaire. (De Leeuw et al., 2008). The general goal of most surveys is to describe a population (Thayer-Hart et al., 2010).

Defining objectives prior to conducting any research is an essential component of the survey process since the objectives of the survey will influence the choice of design components in subsequent steps (Gonzalez & Eltinge, 2010; Statistics Canada, 2010). This stage is an iterative process, involving both the agency carrying out the survey and the client (Statistics Canada, 2010). When defining objectives, the researcher should first determine: 1) information needs, 2) users and uses of the data, 3) the main concepts and operational definitions, 4) the survey content and 5) the analysis plan

(Statistics Canada, 2010). To ensure survey objectives are well defined, researchers should be knowledgeable about the area they wish to research and widen their experience base by exploring related areas and talking with experts in the field. A single and clear research question should be established; studies that aim to address many diverse questions generally produce poorer quality data (Kelley et al., 2003). Common errors of this stage include letting research methods determine the questions that are asked, asking unanswerable research questions and asking questions that have already been answered or are unnecessary (Kelley et al., 2003).

2.2.2. Administrative Structure

The second step in the survey process is to determine the administrative structure (Statistics Canada, 2010). An interdisciplinary survey team in which individuals share responsibility for the planning, design, implementation and evaluation of the survey is a commonly used structure (Statistics Canada, 2010). The survey team should be composed of members with varying backgrounds and skills required for the varying activities needed to carry out a survey, including the statistics, the computer programming, field work and data collection (Statistics Canada, 2010). Most survey teams have a project manager, who is responsible for overseeing the proper functioning of all aspects of the survey activity, and is answerable to senior management (Statistics Canada, 2010).

For situations in which the survey team approach is not appropriate, there are other types of structures that may be used. Some surveys are managed though a steering committee, where committee members coordinate individuals to work on different stages of the survey separately, with no team role (Statistics Canada, 2010). Large scale surveys may use multiple project teams with additional task and sub-task teams to carry out the different stages of the survey (Statistics Canada, 2010). The drawback to this type of administrative structure is that there is often less communication among team members and it is less efficient than a survey team approach (Statistics Canada, 2010). Some agencies will contract out parts of the survey when they lack adequate skills and services within their organization (Statistics Canada, 2010). While this is a common practice and can work well with simpler surveys, contracting out work results in less control over the work that is done, which can be problematic for larger complex surveys.

2.2.3. Sample Design

There are two main types of surveys: sample surveys and census surveys (Statistics Canada, 2010). Censuses collect information on the whole population, whereas sample surveys collect data from only a fraction of the population (Statistics Canada, 2010). There are two main types of sampling methods for sample surveys, non-probability sampling and probability sampling (Statistics Canada, 2010). Determining what sample design to use depends on the population being surveyed, resources available to administer the survey, and the specific goals of the survey. Regardless of the sample design used, selecting a survey frame, the list used to identify and contact the units of the survey population, is a critical component of the survey (Statistics Canada, 2010).

The sample design for a survey should attempt to minimize total survey error. Total survey error is a combination of coverage error, nonresponse error, measurement error, and sampling error (De Leeuw et al., 2008). Coverage error is caused by an incomplete sampling frame, where some units of the population of interest have no chance of being included in the survey (De Leeuw et al., 2008). Nonresponse error occurs when units contacted for the survey do not provide complete data, and measurement error occurs when responses to questions are inaccurate. Measurement error is referred to as error of observation, and stems from aspects of the data collection process such as unclear questions, respondents providing incorrect information and the method of data collection (De Leeuw et al., 2008). Sampling error occurs because a sample is taken instead of surveying the entire population and the results do not properly represent the population. Sample surveys are subject to all four sources of error while census surveys are subject to only the first three sources of error (De Leeuw et al., 2008). A good survey should strive to reduce all four sources of error and at the same time keep survey costs within a reasonable budget (De Leeuw et al., 2008). Optimal survey design therefore involves balancing survey error and survey costs while considering the bounds of cultural and technological resources (De Leeuw et al., 2008).

When the target population is small and exists in a contained geographic area, a census may be appropriate (Statistics Canada, 2010). With a small population it is often necessary to sample a large fraction in order to produce estimates with a small sampling error. In such cases it is possible to collect data on the entire population instead of just a

portion of it for minimal additional cost and resources (Statistics Canada, 2010). Censuses are beneficial because they are able to collect high quality demographic data across the population and they reduce accuracy concerns (Parker, 2011). In addition, when working with small populations, censuses can be more inclusive since no one feels 'left out' (Parker, 2011). However, censuses are often costly and time-consuming, and for many situations are not a realistic method for collecting data. Therefore, census surveys are not used as often as sample surveys (Kelley et al., 2003).

The advantages of sample surveys are that they provide a faster and more economical way of gathering information (Statistics Canada, 2010). Since sample surveys operate on a smaller scale than most censuses, they are easier to control and monitor (Statistics Canada, 2010). However, determining the correct sample frame and proper stratification of sample surveys can be difficult, and, if done incorrectly, will produce survey results that inaccurately reflect the characteristics of the population (Parker, 2011). For example, incorrect stratified techniques can result in certain sub-groups not being represented or being over-represented in the results (Parker, 2011).

2.2.4. Data Collection Methodology

The data collection process involves collecting the required information for each unit in the survey (Statistics Canada, 2010). Data collection can be paper-based or computer-assisted (Statistics Canada, 2010). Computer-assisted procedures can be used for all the modes of data collection and have been replacing pen-and-paper methods at an increasing rate (De Leeuw et al., 2008). Computer-assisted data collection involves reading questions from a computer screen and entering responses directly into the computer. These methods are beneficial because they combine data collection and data capture (the transformation of responses into a machine-readable form) allowing for a faster and more efficient process (Statistics Canada, 2010). They also allow for complex filtering and skip questions, piping and feedback, error checking, consistency checks, and enforcing answer requirements (de Vaus, 2014). In addition, computer-based data collection can provide greater assurances around confidentiality of data than paper-based surveys, which are subject to concerns over handling and storage of completed questionnaires (Statistics Canada, 2010). However, to protect the confidentiality of respondent data when using computer-based methods, it is essential that the data are coded and personal identifiers removed, stored on a secured server,

and any transmission of information between computers occur over a secure line (Statistics Canada, 2010).

While there are numerous advantages to computer-assisted methods, careful design of pen-and-paper surveys can also achieve good results (De Leeuw et al., 2008). The success of computer-assisted surveys is also highly dependent on respondents' proficiency with computers and their ability and willingness to access a computer to complete the survey (de Vaus, 2014).

The two basic methods of data collection for either paper-based or computer assisted surveys are interview-assisted methods and self-administered methods. Interview-assisted methods include face-to-face interviews and telephone interviews (De Leeuw et al., 2008). Self-administered questionnaires lack the presence of an interviewer, and include mail surveys, surveys carried out in group or individualized settings, and web surveys (De Leeuw et al., 2008). Each option has important theoretical and practical differences that need to be considered (De Leeuw et al., 2008). Interview-assisted methods provide the opportunity for the interviewer to personalize the interview, interpret questions and survey questions, stimulate interest in the survey and ensure confidentiality measures. They can also explain the purpose of the survey and how the findings will be used, all of which contribute to increased response rates and higher quality data (Statistics Canada, 2010). Ultimately, interviewers are responsible for motivating respondents, clarifying questions, answering questions from the respondents, and probing after inadequate answers (De Leeuw et al., 2008). This is often more difficult in telephone surveys because interviewers cannot respond to non-verbal cues, but interviewers are still able to answer questions and give additional information (De Leeuw et al., 2008). Disadvantages of interview-assisted methods are that they can be costly, time-consuming and difficult to administer. Poorly trained interviewers can cause response errors and respondents can be more reluctant to give accurate answers, particularly on sensitive topics (Statistics Canada, 2010). Even well-trained interviewers impact responses, for example by inhibiting socially undesirable answers (De Leeuw et al., 2008). These types of interviewer-effects for telephone surveys are less than face-to-face interviews (De Leeuw et al., 2008).

Self-administered methods remove interviewer effects on responses. Absence of an interviewer can create a greater feeling of anonymity, and as a result, self-

administered surveys often have more consistent results, increasing the overall reliability and quality of the data (Nardi, 2003). Sensitive information is more frequently and more accurately reported in self-administered survey modes (Kays et al., 2011; Tournagou & Yan, 2007). Self-administered modes can also be beneficial when detailed information is required or when there are numerous and complex response categories as they allow respondents to consult personal records (Statistics Canada, 2010). The main drawback to self-administered modes is that because there is no interviewer present to answer questions and clarify instructions, they are prone to respondent error and misinterpretation, which can reduce the quality of the data (Statistics Canada, 2010). In addition, both mail and web surveys generally have lower response rates than interviewer-assisted modes. Of all the survey modes, web surveys typically have the lowest response rate, unless administered to specific target groups such as students, employees or association members who are highly computer literate (Sinclair et al., 2012). Hand-delivering the questionnaire is one option that allows for the survey to remain self-administered, while at the same time achieving response rates close to those of interview-assisted methods (Statistics Canada, 2010). Researchers delivering the survey are able to explain the purpose of the survey and answer any questions the same way an interviewer can, but because this method requires field staff it has similar costs to personal interviews (Statistics Canada, 2010).

It is increasingly common for researchers to utilize more than one mode of data collection when conducting a single survey. A mixed-mode survey combines different modes of data collection to contact participants and/or to complete the questionnaire (De Leeuw et al., 2008). For example, a mixed-mode survey may provide respondents with the choice of completing the questionnaire online or by mail using a paper copy. Mixed-mode surveys allow for the strengths of one mode to compensate for the weaknesses of another and can improve response rates by increasing the likelihood of securing data from different types of respondents (Check & Schutt, 2012; Dillman, 2007). However, the different modes used in mixed-mode data collection can affect the ways in which people respond to questions, reducing the overall quality of the data (de Vaus, 2014). The negative effects of mixed-mode surveys can be reduced by having consistent question structures, response choices and skip instructions (Check & Schutt, 2012).

There is no one mode of data collection that is considered to be the best option in all circumstances and all of the forms discussed above have the potential to yield high

quality data (De Leeuw et al., 2008). The choice of data collection methodology should be informed by the research objectives, the content of the survey, the population being surveyed and the resources available (De Leeuw et al., 2008; Gray & Guppy, 2003). In many situations, determining the mode of data collection requires weighing the advantages and disadvantages against each other and choosing on a case-by-case basis.

2.2.5. Questionnaire Design

Developing the questionnaire involves deciding what questions to ask and how best to word and format the questions (Statistics Canada, 2010). The design of the questionnaire will be influenced by the method of data collection (Statistics Canada, 2010). Questionnaires for self-administered surveys should be less complex and shorter than interview-assisted methods. They also must include all the information required to complete the survey including a statement about confidentiality of respondent data. The statement should provide participants with information about how their data will be protected and should also include additional information about how the data are to be used, how long the data will be kept, and who will have access to the data (Statistics Canada, 2010).

In general, questionnaires should begin with a set of questions that are interesting, apply to all respondents, and are easy to interpret and answer (Babbie & Benaquisto 2014; Statistics Canada, 2010). Demographic questions and sensitive questions should be placed near the end of the survey; if sensitive questions are placed too early, respondents may be reluctant to answer them (Babbie & Benaquisto, 2014).

All survey questions should strive to meet two criteria: reliability and validity (De Leeuw et al., 2008; Glasow, 2005). Reliable questions provide consistent measures in similar situations, and valid questions produce answers that correspond to the true value they are trying to measure (Floyd & Fowler, 2009). When possible, researchers should look to existing and tested questions. Using questions from surveys on similar topics enhances the robustness of the data and allows for comparability across data sources (Cloutier & Langlet, 2014). If there are no previously used survey questions that collect the required information, questions should be carefully constructed to ensure they are reliable and valid. Questions need to be designed in a way that they are consistently

understood to ensure that all respondents are answering the same question (De Leeuw et al., 2008). There are a number of ways to reduce the potential for misunderstandings, including choice of vocabulary, wording of questions and structure of questions (De Leeuw et al., 2008). Principles for writing good questions are summarized in Table 1.

Table 1. Principles for good question design (based on Dillman, 2007; Gray & Guppy 2003; Statistics Canada, 2010).

Principle	Description
Keep questions simple	- Question structure should be simple and easy for respondents to comprehend - Wording of questions should avoid complex words, technical terms, jargon and phrases that are difficult to understand. - Do not ask multiple questions at the same time - Break up large complex questions into several smaller questions
Ensure questions are applicable	- In order to distinguish a non-response from a question that does not apply to the participant, each question should require a response (this can be done by including a '*Not applicable'* option). - Consider whether respondents will be able to accurately recall and report past behaviours, and whether they have enough knowledge to answer the question asked. - A 'don't know' option should be included when asking a question about subject matter that is far removed from respondents' lives
Have equal numbers of positive and negative categories	- Rating questions should have an equal number of positive and negative categories - Increasing the number of categories in a rating scale to seven improves the quality of measurement, beyond that more categories do not improve measurement
Have mutually exclusive and exhaustive response categories	There should only be one response category that best describes each respondent, and there should be a response category for all respondents
Include time frames	- Questions without a reference period or time frame can result in ambiguity - Time frames provide the boundaries of how to think about the question - Reference periods should reflect the significance of the events asked about, minor events should have shorter reference periods
Have clear response tasks	Question should clearly state what kind of answer is required and in what level of detail
Use closed questions when possible	- Closed questions are less burdensome to respondents and data collection is cheaper and easier - Open ended questions can be used to provide follow-up to closed questions
Avoid double-barreled questions	Double-barreled questions have two questions in one, and deal with more than one concept, making them difficult to answer
Avoid using double negatives	This often involves using *not,* and can make questions confusing to answer
Avoid leading questions	Questions should not suggest a specific answer to the respondent

2.2.6. Incentives

Evidence discussed in the literature demonstrates that incentives can be used to improve response rates, but the extent of improvement is influenced by type of incentive, the study population and other features of the survey (De Leeuw et al., 2008). In some instances, incentives can also reduce nonresponse error by increasing the chance that certain member groups, which are typically underrepresented, will participate in the survey (Singer & Ye, 2013). Incentive options include prize draws as well as cash and non-cash rewards, which can be included with the survey or promised after completion.

Response incentives are used regularly in all types of surveys to improve contact and response rates (Gajic et al., 2012). Cash incentives consistently outperform non-cash incentives, and pre-payment is more effective than a promised incentive given at a later time, even when the promised incentive is larger (Dillman, 2007; Singer & Ye, 2012). Recommended values for an incentive range between $1 and $5 for most mail or online questionnaires (Gray & Guppy, 2003). Including a $2 incentive has been shown in one study to raise response rate by 5.5% and a $5 incentive by 8.2% (Gray & Guppy, 2003). However, higher incentives, between $5 to $20, did not result in a significant difference in response rate (Gray & Guppy, 2003).

Lotteries are a common incentive used in web-surveys and have been shown to be effective in increasing contact, response and speed of response (Gajic et al., 2012; Marsden & Wright, 2010). Lotteries with small prizes but a higher chance of winning are more effective at increasing response rates than one large lottery (Deutskens et al., 2014; Gajic et al., 2012). However, there is less certainty concerning the most effective incentive for web-based surveys than for mail surveys (Gajic et al., 2012).

2.2.7. Piloting

All surveys should be tested on a sample of people from the target population (Kelley et al., 2003). Testing the survey helps the researcher identify whether respondents understand the questions and instructions, and if the questions mean the same thing to all respondents (Kelley et al., 2003). For questionnaires containing close-ended questions the pilot can help determine if there are sufficient response categories (Kelley et al., 2003).

Surveys should be tested on a sample ranging from 20 to 100 respondents (Statistics Canada, 2010). Pilot surveys should be conducted in the same way the survey will be administered to the rest of the sample; during pilot surveys, respondents should complete the questionnaire as if it were the real survey (Statistics Canada, 2010).

2.2.8. Collecting Data

The process of collecting the data should be carried out in a rigorous and ethical manner (Kelley et al., 2003). Part of the data collection process involves gaining access to selected individuals and enlisting their cooperation (Floyd & Fowler, 2009). In order to reduce nonresponse due to lack of availability, the researcher should make multiple calls, focusing on evenings and weekends. Floyd and Fowler (2009) recommend a minimum of six calls per household in urban areas when conducting telephone or personal interviews. Interviewers should also maintain flexible schedules so they are able to meet respondents at times that are convenient for them (Floyd & Fowler, 2009). Establishing contact through an information letter prior to calling respondents can help participation (Dillman et al., 2014). The researchers should present the study to participants in a way that makes them feel it is important and relevant to them and specify how the survey results will be useful (Dillman et al., 2014; Floyd & Fowler, 2009). Reassuring respondents of any concerns about confidentiality of the data can also help increase response rates (Statistics Canada, 2010).

To ensure methods are rigorous and standardized, researchers should record the details of the survey administration process, including how and where respondents were contacted, the number of times each participant was contacted and who the contacting person was (Kelley et al., 2003). The total number of people contacted to complete the survey, who refused, and who agreed to participate should be noted. Researchers should also record information about what, if any, the differences were between those who agreed to participate and those who refused, noting reasons for refusal and general characteristics such as age, gender, health and socio-economic status (Kelley et al., 2013). Finally, the mode that was used to administer the survey and the response rate should be recorded.

2.2.9. Analyzing and Disseminating Data

Once survey data have been collected, they need to be analyzed and disseminated in order to be useful. In the data analysis stage, information collected is summarized and interpreted in order to answer the questions established at the beginning of the survey (Statistics Canada, 2010). Depending on the objectives of the survey, the data can be analyzed alone or compared to other data. Summary measures and/or statistical analysis can be used to present the data (Statistics Canada, 2010).

The dissemination stage releases information and allows users to access the data that have been collected and analyzed through the survey (Statistics Canada, 2010). There are various ways in which data can be communicated, including written documents, interviews, press releases or through online formats (Statistics Canada, 2010). In addition to presenting the information collected through the survey, reports of final results should include a statement on strengths and weaknesses of the data used, description of the survey methodology, sources of error, and recommendations for improvements (Statistics Canada, 2010). Information that is released should be complete, accurate and accessible, and presented in a timely fashion. Written reports or statements should be delivered in a format that it is understandable and usable to the intended audience. It is essential that measures are taken to ensure that the confidentiality of respondents' information is protected when data are released (Statistics Canada, 2010). Statistical agencies are generally required by law to protect the confidentiality of respondent data (Statistics Canada, 2010). There are multiple measures that can help ensure that confidentiality is protected, including protecting questionnaires during data collection and when in transit, training employees in confidentiality measures and having them sign confidentiality agreements, and removing personal identities from responses and replacing personal information with a code (Statistics Canada, 2010).

2.2.10.   Survey Documentation and Evaluation

Each step of the survey should be documented in order to have a complete record of the survey (Statistics Canada, 2010). Such documentation allows for surveys to be evaluated in order to improve future iterations or provide recommendations for other surveys. Survey evaluation is often performed after the study is conducted but can

also occur throughout the survey process (De Leeuw et al., 2008; Statistics Canada, 2010). When surveys are repeated over time, evaluating each step can lead to improvements in design and implementation of future iterations (Statistics Canada, 2010). Survey evaluation should involve an assessment of the methods used, including cost performance and operational effectiveness (Statistics Canada, 2010). Survey evaluation also provides an opportunity to assess the total survey error and make any necessary modifications to future survey processes and design principles (De Leeuw et al., 2008).

Table 2. Summary of survey design components and guidelines for each stage of a survey.

Survey Design Component	Guidelines
Setting Goals	• Establish goals prior to conducting survey research • Develop a single research question rather than trying to address multiple research questions
Survey Administration Structure	• Interdisciplinary survey teams where individuals share responsibility for the planning, design, implementation and evaluation of the survey is a commonly used administration structure
Sample design **Options**: *Sample survey, census survey*	• Conduct census surveys when population is small and geographically contained • Conduct sample surveys for large populations or populations that are spread out geographically
Data collection methodology **Options:** *Face-to-face interviews, telephone interviews, mail questionnaires, web survey*	• Highly dependent on characteristics of the population and survey budget • In person interviews recommended when smaller populations are being surveyed • Sensitive questions should be self-administered
Questionnaire design	• Self-administered surveys should have shorter and less complex questionnaires and contain all required information, including how confidentiality of respondent data will be protected • All questionnaires should start with questions that apply to all respondents, are interesting and easy to answer • Sensitive questions should be placed near the end
Incentives **Options:** *Prepaid cash rewards, promised cash rewards, prepaid non-cash rewards, promised non-cash rewards, prize draws*	• Cash incentives most effective
Piloting	• Should be tested on a sample of 20 – 100 people and conducted the way it will be administered to the rest of the sample
Collecting data	• Attempt to contact respondents multiple times • Interviewers to meet at time convenient to respondents • Record details of the survey administration process

Survey Design Component	Guidelines
Analyzing and disseminating data	• Ensure measures are taken to protect confidentiality of respondents when analyzing and disseminating data • Final results presented to users in a way that answers questions established at the onset of the survey
Survey Evaluation	• Assess methods used and evaluate effectiveness and cost performance

2.3. Applicability of Best Practices to First Nation Survey Research

Best practices (BPs) can be defined as methodologies, strategies, procedures or practices that consistently produce successful results and achieve set goals and objectives (Plate et al., 2009). Within survey research, BPs attempt to outline basic methods that can be incorporated into the design and implementation of a survey (Statistics Canada, 2010). The guidelines presented above represent common BPs for general survey research. However, although the BPs in survey methodology aim to be applicable to a wide range of survey types, many survey methodology guidelines and documents draw on experiences from large-scale national level surveys to inform their methodology. For example, Statistics Canada's *Survey Methods and Practices* document is a widely used tool for survey design, which was developed for the National Bureau of Statistics under the Canada – China Statistical Co-operation Program (Statistics Canada, 2010). Another common reference for survey methodology is the *International Handbook of Survey Research*, which originated in part to provide information and guide survey development across national borders, and to conduct surveys across continents (De Leeuw et al., 2008). Similarly, the Word Bank's guide to Designing Household Survey Questionnaires is aimed at survey planners from national statistical and planning agencies and international organizations.

Even when BPs have been well-established, there is always variability in the quality of the procedures that are used (Floyd & Fowler, 2009). More recent survey research has moved away from the one-size-fits-all approach, recognizing the importance of tailoring specific data collection strategies to different populations, survey situations and topics (Dillman et al., 2014). In some cases, there is a lack of good studies examining how best to collect data for a particular purpose (Floyd & Fowler,

2009). Thus, while the BPs identified in the literature can be used to inform survey research, caution should be taken when applying them directly to less common survey situations, especially if they are dissimilar from those used to inform the BPs. For these cases, BPs should be combined with and adapted by experience and past examples of similar survey situations to ensure they are appropriate.

Survey research in First Nation communities is one example of where it may be inappropriate to apply the general guidelines for survey research without modification. First Nations, Inuit and Metis have unique histories, cultures and traditions (Government of Canada, 2018). Historically, much of the research involving Indigenous peoples in Canada has been conducted by non-Indigenous researchers in a way that does not reflect Indigenous world views or benefit Indigenous communities (Ball & Janyst, 2008). Similarly, much of the research conducted to develop BPs for survey methodology has been executed by non-Indigenous researchers and reflects a Western world-view. Therefore, when carrying out survey research with or for First Nation communities, BPs must be critically assessed and adjusted to reflect local circumstances, to ensure they address community needs while aligning with community values.

Chapter 3.

Surveys That Collect Information from Indigenous Peoples

3.1. Surveys on a National Scale

In Canada, the major surveys that gather data on the general population, including Indigenous peoples, are the Census of Population and the Canadian Community Health Survey. In addition to these surveys, there are also special surveys that collect Indigenous specific data (Steffler, 2016).

The Census of the Population, conducted by Statistics Canada, collects basic demographic data, including data on residence, age, gender, family structure, education, employment and language (Steffler, 2016). The Census of Population is administered every five years, and all Canadians are surveyed for the short-form census, including Indigenous populations living both on- and off-reserve (Statistics Canada, 2017). Since 1986, Indigenous peoples have the option to self-identify as: First Nations (Registered/Non-registered) Metis or Inuit (Steffler, 2016). The Census has an omnibus structure, and each cycle of the census collects high-level comparative data on a wide variety of topics (Steffler, 2016). While the Census provides information useful to understanding gaps among populations on matters such as education, income, employment, housing, gender disparity and demographic projections, its data cannot fully explain underlying causes of socioeconomic outcomes since it does not collect in depth information (Steffler, 2016). This is especially true for Indigenous populations whose culture and circumstances vary widely between communities (Steffler, 2016).

The Canadian Community Health Survey (CCHS) is an annual survey conducted by Statistics Canada that gathers information relating to health status, health care utilization and health determinants for the Canadian population at sub-provincial levels (Statistics Canada, 2016). Certain groups are not included in the CCHS, including persons living on reserves or other Aboriginal settlements, members of the Canadian Forces and the institutionalized population Statistics Canada, 2016). While the CCHS provides extensive data about many aspects of Canadians' health, only in recent years

did it include questions allowing for Aboriginal identity (Statistics Canada, 2016). Although recent iterations of the survey provide results specific to First Nations living off reserve, Metis and Inuit, the CCHS was not specifically designed for Indigenous populations and thus unique health challenges faced by Indigenous peoples are not fully captured (Gionet & Roshanafshar, 2013). When general health issues were compared between First Nations, Metis and Inuit and the non-Indigenous population, the data revealed that Indigenous populations reported overall poorer health compared with non-Indigenous people (Gionet & Roshanafshar, 2013). Results indicate Indigenous populations have higher rates of smoking, obesity, and chronic conditions, such as diabetes, heart disease and respiratory illness, compared to the non-Indigenous population (Gionet & Roshanafshar, 2013).

In contrast to the large surveys which gather data on the general population, Statistics Canada also conducts special surveys: targeted social surveys that aim to collect more in-depth information on specific topics. Some of these special surveys focus on Indigenous populations and address topics important to Indigenous peoples (Steffler, 2016). Data collected from these surveys help to offset the lack of data on Indigenous peoples that stems from sampling methods of surveys for the general population that exclude First Nations living on reserve (Steffler, 2016). In addition to Statistics Canada's special surveys, there are other large-scale surveys run by the First Nations Information Governance Center (FNIGC) that collect information from Indigenous populations in Canada. Surveys related to Indigenous populations that have been conducted include:

- Aboriginal Peoples Survey (APS)

- Aboriginal Children's Survey (ACS)

- Regional Health Survey (RHS)

- First Nations Regional Early Childhood, Education and Employment Survey (FNREES)

- Community Survey

The role of First Nations in these surveys, which collect information either partly or exclusively from First Nations, varies among surveys. In the APS and ACS, which are

run by Statistics Canada, First Nations are only partially involved, whereas the RHS. FNREES and Community Survey are completely First Nations run.

3.1.1. Aboriginal Peoples Survey (APS)

The APS is run by Statistics Canada and is conducted every five years. Its purpose is to provide data on social and economic conditions of Aboriginal people in Canada by focusing on issues such as education, health, language, income, housing and mobility (Cloutier & Langlet, 2014). It is a national survey of Inuit, Metis, and First Nations people living off reserve that helps to provide key statistics to inform policy and programming activities intended to improve the well-being of Aboriginal Peoples (Cloutier & Langlet, 2014).

The survey instrument for the APS was developed in collaboration with national Aboriginal organizations, and early iterations were reviewed by researchers and subject matter experts, both from within Statistics Canada and outside the organization (Cloutier & Langlet, 2014). Iterations before 2012 used a paper-based format, but in 2012 switched to computer-assisted interviewing because of its high efficiency and quality of data collection. Both computer assisted telephone interviewing and computer assisted personal interview methods were used (Cloutier & Langlet, 2014). The survey questionnaire was tested by Statistics Canada Questionnaire Design Resource Center in collaboration with First Nations, Metis and Inuit people across Canada (Cloutier & Langlet, 2014). Adjustments to question wording and flow were made based on the results from testing. However, when possible, question wording designed by Statistics Canada was closely maintained to established survey questions to increase comparability between Statistics Canada surveys (Cloutier & Langlet, 2014). Respondents were interviewed in the official language of their choice and on average the survey took about 40 minutes to complete (Cloutier & Langlet, 2014). The 2012 survey used a cross-sectional sample design and achieved a 76% response rate (Cloutier & Langlet, 2014).

3.1.2. Aboriginal Children's Survey (ACS)

The ACS was a one-time survey conducted by Statistics Canada in 2006 to provide information on the "early development of Aboriginal children and the social and

living conditions in which they are learning and growing" (Statistics Canada, 2007). The survey targeted Metis, Inuit and off-reserve First Nation children under 6 years of age (Statistics Canada, 2007). The survey was developed through a collaboration between Statistics Canada and Aboriginal advisers, and was conducted jointly with Human Resources and Social Development Canada (Statistics Canada, 2007). The survey process also involved direct participation of parents, front-line workers, early childhood educators, as well as researchers and Aboriginal organizers (Statistics Canada, 2007). An advisory panel, the Technical Advisory Group, that consisted of specialists in Aboriginal early childhood development was established to help guide the survey process. The Technical Advisory Group worked with Statistics Canada to develop the survey questionnaire, which was further tested through focus groups and a pilot test (Statistics Canada, 2007). The sample design followed a cross-sectional methodology, using responses to the 2006 Census to select respondents. Data was collected between October 2006 and April 2007 (Statistics Canada, 2007). Parent or guardians provided the information for the children surveyed, and surveys were conducted through in-person interviews in Nunavut and the Northwest Territories (except Yellowknife) and over the phone everywhere else. Interviewees used a paper questionnaire to record responses from both in-person and telephone interviews (Statistics Canada, 2007).

3.1.3. Regional Health Survey (RHS)

The Regional Health Survey (RHS) is a First Nations governed national health survey which collects information based on both Western and traditional understandings of health and well-being (FNIGC, 2012). The survey covers on reserve and northern First Nations communities. The first iteration of the RHS survey, or the 'pilot survey' was carried out in 1997. In this iteration, the RHS relied heavily on university-based researchers who worked together with First Nation and Inuit representatives to design and implement the survey (FNIGC, 2012). As the survey evolved, so did the capacity of First Nations to inform areas including survey design, data collection and analysis, and data dissemination (FNIGC, 2012).

Building on lessons learned and strengths from the first survey, the next iteration, in 2002-2003, made a number of adjustments. A youth survey instrument was added in addition to the adult and children instruments (FNIGC, 2012). The questionnaires were refined over two years, inviting input from a wide range of people, including health

workers from First Nations communities, members from Health Canada and consultants from a variety of organizations as well as university researchers (FNIGC, 2012). Ultimately, the questions in the survey attempted to find a balance between culturally relevant First Nations content and content from other Canadian surveys in order to make them comparable. Further refinement of the survey instruments involved two rounds of qualitative field testing to assess procedures and probes for each questionnaire (FNIGC, 2012).

Data collection methodology for the 2002-2003 survey was improved using a computer assisted personal interviewing package (FNIGC, 2012). Using this technology, survey participants had more control over the interview process. The protocol specified for adults to be interviewed directly, children by their primary caregiver, and youth to complete the survey themselves, but all survey participants had the option to self-administer the survey if they preferred to (FNIGC, 2012). When surveys were self-administered, the interviewer would remain in the room to be available for questions or assistance. The 2008-10 iteration of the survey continued with this method, adding the use of specified mobile data collection laptops (FNIGC, 2012).

The FNIGC returns survey results to any participating First Nations, but only once individual identifiers are removed in order to protect individual privacy rights (FNIGC, 2012). However, the FNIGC recognizes that "data related to a specific community or group of communities are, in most but not all cases, of very limited use from a statistical perspective" and that at the community level, the sample size allows for limited or no analysis (FNIGC, 2011 p. 27). The role of the FNIGC is to coordinate and oversee the RHS, and to act as data stewards of the national data collected through the survey. Three key components to the RHS infrastructure and system for information governance are (FNIGC, 2012):

1) Protecting privacy of individuals and collective units

2) Abiding by the OCAP principles, disseminating the results of the RHS and making data available for research and study in order to advance knowledge that will improve First Nations health

3) Respecting other levels of information governance

3.1.4. First Nations Regional Early Childhood, Education and Employment Survey (FNREES)

The First Nations Regional Early Childhood, Education and Employment Survey (FNREES) was initiated as a mandate from the Assembly of First Nations' Chiefs in Assembly to collect culturally and socially relevant information on early childhood development, education and employment (FNIGC, 2016). Questions focused on school attendance, school experience, educational success, family support, tutoring, employment, unemployment, traditional activities, physical and mental health, knowledge of First Nations languages, and housing (FNIGC, 2016). The information collected in this survey was to serve as a means of addressing the First Nations data gap for early childhood education and development, youth development and education, and labor force conditions, and only targeted First Nation populations living on reserve and First Nation communities in northern Canada (FNIGC, 2016). Data collection started in the Fall of 2013 and continued through to May 2014, collecting information from 250 reserves and northern communities across Canada (FNIGC, 2016). The survey was conducted by FNIGC regional partners and trained regional field workers. A two-stage sampling strategy was used, involving an initial selection of communities to participate in the survey, and then the selection of individuals within each community (FNIGC, 2016). Band or community membership lists were used to randomly select community members stratified by age and gender (FNIGC, 2016).

To ensure questions were relevant to First Nations people, the survey instrument was designed in a holistic way using a cultural framework (FNIGC, 2016). To address the individual and unique needs of different First Nation communities, the survey contained region-specific questions in addition to the main set of questions (FNIGC, 2016). The FNIGC established a National Advisory Committee, which was comprised of experts in topics addressed in the survey, to provide cultural advice and guidance during the survey development process. When developing and refining questions, the following factors were taken into consideration (FNIGC, 2016):

- Relevancy of objectives, themes, content;

- Cultural appropriateness of content;

- Validity and reliability of questionnaire items, and;

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- The comparability with other surveys

The First Nations Holistic Lifelong Learning Model, which links First Nations lifelong learning and community well-being, was used to inform the survey development process (FNIGC, 2016). This model was developed in response to the problem that "current approaches to measuring Aboriginal learning in Canada do not reflect the holistic nature of First Nations, Inuit and Metis leaning" (Canadian Council on Learning, 2007 p. 8). By measuring educational success in lifelong learning using a holistic method, their approach differed from the standard measurement approaches that often fail to reflect the specific needs and aspirations of First Nations people (FNIGC, 2016). A typical non-Indigenous measurement approach focuses on differences between First Nation and non-First Nation learners, and thus many of the aspects of learning that are integral to a First Nations perspective are overlooked (FNIGC, 2016).

The FNREES used a cross sectional survey methodology, and three survey instruments were developed: a children's survey (for respondents up to 11 years old) a youth survey (ages 12-17) and an adult survey (for respondents 18 years and older) (FNIGC, 2016). First Nations community members were trained to work as FNREES fieldworkers, providing them with the necessary skills to administer the surveys in their community and surrounding areas (FNIGC, 2016). Surveys were generally conducted using computer assisted interviewing, but respondents also had the option to fill the survey out themselves (FNIGC, 2016). When respondents chose to self-administer the survey, field staff remained in the room to answer questions. Surveys were most often completed in respondents' homes, but respondents could also choose to complete the survey at a location most convenient to them (home, school, community center) (FNIGC, 2016). The survey took between 30 minutes and an hour to complete. The response rate for the survey was 70%, and for BC specifically the response rate was 83% (FNIGC, 2016).

The RHS and the FNREES are both run by the FNIGC and are the only major survey instruments which collect information from First Nations people living on-reserve or in northern communities. In addition, they are the only major surveys that use an in-depth process of engagement with First Nations representatives (Steffler, 2016). The RHS is considered a fundamental source of high-quality data on health in First Nations

communities, and data generated from this survey inform policy development in multiple First Nations health programs (Steffler, 2016). FNIGC follows the fundamental principles of OCAP, which assert First Nations' ownership and control over data collection in their communities, when carrying out any research (FNIGC, 2011). FNIGC has further evolved to establish its own Code of Ethics, Guiding Principles, and Best Practices. Surveys carried out by FNIGC are guided by the principle that "First Nations have the right and responsibility to govern their information in a manner that respects their values, cultures and traditions" (FNIGC, 2011 p. 11). It recognizes that information governance has multiple dimensions, and affects individual and collective privacy, data collection, data storage, and ways in which the data are disseminated (FNIGC, 2011).

3.1.5. Community Survey

The First Nations Community Survey is another initiative of the FNIGC, designed to complement individual-level information collected by RHS and FNREES to provide a more holistic picture of the issues affecting First Nation communities (FNIGC, 2015). The Community Survey is designed to examine the relationship between community level factors and individual well-being. The survey was founded in 2005 and was conducted again in 2008 and 2015 (FNIGC, 2015). It is conducted in 330 randomly selected First Nations reserve and Northern communities. The survey is intended to be 'quick and convenient' and takes about 15-20 minutes to fill out (FNIGC, 2015). The survey is self-administered; paper-based methods were used for the initial iterations before switching to an online platform in 2015 for the third iteration (FNIGC, 2015).

3.2. Case Studies of First Nations Community Surveys

The availability of quality data for First Nations has improved over the past two decades as a result of First Nation run surveys such as the RHS and FNREES. However, these surveys still operate at the national level, and data collected often cannot be usefully analyzed at the community level (FNIGC, 2011). Further, although FNREES attempts to include region-specific questions, many communities still have unique data requirements that are not captured through these surveys. Given the varying economic and social conditions and development goals among First Nations, community-level surveys can provide an important way to gather relevant information.

Unlike national level surveys, community surveys can be completely adapted to the community's needs and interests. First Nation community surveys can focus on issues entirely unique to the membership or can collect information on common socio-economic indicators to allow for comparisons with other First Nations or the general population. Both types can help community managers to track and assess their initiatives and community perceptions, address well-being of individual members or participation levels in cultural activities. This knowledge can improve community planning and can strengthen budget allocation and funding requests, among other things. Data generated from community surveys also enables First Nations to provide accurate and relevant information to proponents conducting environmental assessments, ideally leading to a more accurate assessment of potential impacts, and more meaningful mitigation measures.

In order to benefit from this method of acquiring data, a community survey requires careful consideration and planning. Many researchers first look to the literature for guidance, yet the survey research methods provided in the literature may not always be able to be directly applicable in these circumstances. Conducting a survey in a First Nations community is different than conducting a survey for a non-Indigenous population as First Nations have their own histories, worldviews, value systems and beliefs. In addition, each First Nation community is different, and the survey must be designed and administered in a way that reflects the unique characteristics of the community for which it is intended. This is underscored by Kukutai and Taylor (2016) who assert that there is a need for a much greater level of community involvement in the gathering of culturally relevant information.

In the last decade, more First Nations have started to conduct community-level surveys (distinct from the Community Survey initiative of the FNIGC described previously in this chapter). Designing these surveys can be challenging due to the lack of relevant guidance available from the literature. Details of past First Nations community surveys documenting methodology as well as strengths and weaknesses serve as a useful foundation for other researchers conducting First Nation surveys. This information may be especially useful in providing guidance for First Nations without prior experience conducting surveys and for external researchers working with such First Nations. In order to gather information about methodologies of surveys conducted in First Nations communities I have provided four case studies of First Nations community surveys and

described the methods used in those surveys. I then compare these methods to the guidelines in the literature to examine the similarities and differences that exist. The four case studies were chosen because each consisted of a thoroughly planned survey collecting socio-economic data in a way that could be used to provide representative information about the membership. The case studies were also chosen based on the availability of information on the survey methods. The surveys that are described in the case studies are:

- Metlakatla Membership Census

- Ktunaxa Nation Census

- Musqueam Community Census

- Tsawwassen Well-Being Survey

Information about the case studies was gathered through a combination of formal and informal interviews and through online reports and documents. Information about the methods used for the Metlakatla Membership Census and the Musqueam Community Census were collected through structured interviews with individuals involved in survey design and administration. Information about the Ktunaxa Nation Census was collected through an informal and unstructured interview with a Ktunaxa researcher who was involved in the second iteration of the survey. Information about the Tsawwassen Well-Being Survey was collected through reports and documents online, primarily relying on the document *Environment, development, trust, and well-being in the Tsawwassen First Nation government* (Takasaki, 2014) for details on the survey methods. More detailed information on each of the case studies can be found in Appendices A-D.

3.2.1. Metlakatla First Nation

The Metlakatla First Nation is one of seven Tsimshian communities located in the northwestern region of British Columbia (BC). The traditional territory of the Metlakatla First Nation encompasses approximately 20,000 square kilometers of land and sea in the Skeena-Queen Charlotte Regional District (Figure 1) and includes the cities of Prince Rupert and Terrace. As of June 2017, the Metlakatla First Nation had approximately 950

registered members (Indigenous and Northern Affairs Canada (INAC), 2017). While most of the members live off-reserve, approximately 100 members live in Metlakatla Village, the main Metlakatla Reserve, located on the Tsimshian Peninsula, about 7 kilometers west of Prince Rupert.
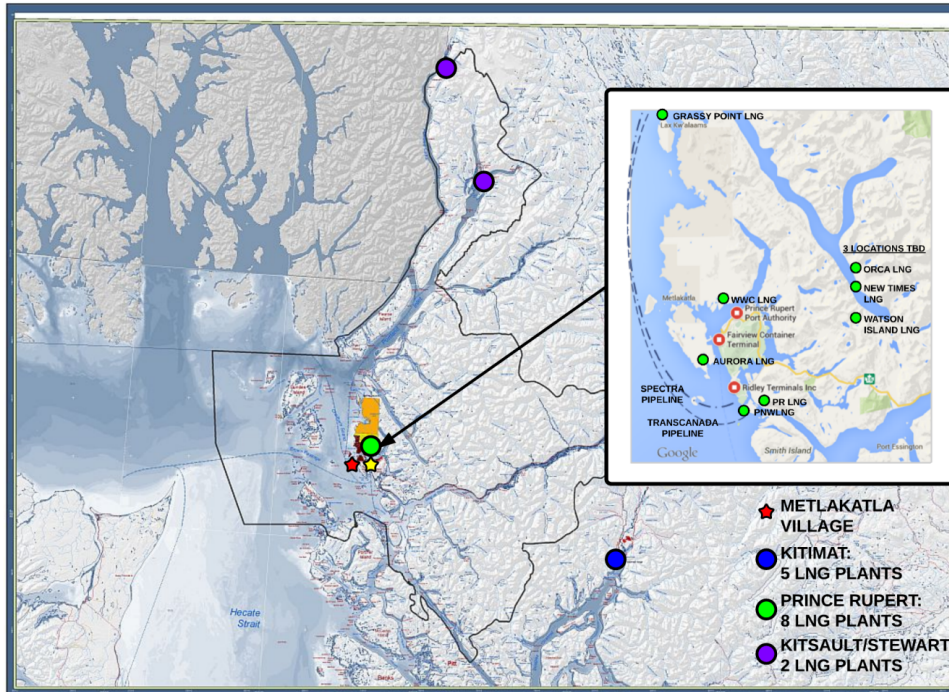
Figure 1. Location of Metlakatla First Nation Traditional Territory and Proposed LNG Development on the North Coast of BC (Metlakatla First Nation, 2015)

Metlakatla First Nation, in collaboration with Compass Resource Management and the School of Resource and Environmental Management at Simon Fraser University (SFU), developed the Metlakatla Membership Census (MMC) to collect baseline socio-economic data for a cumulative effects management (CEM) program that was instituted by the Metlakatla First Nation in 2014. The CEM program was developed to track, manage and mitigate cumulative impacts from development projects and other activities that are proposed in the Metlakatla Traditional Territory (Compass Resource Management Ltd. 2015a). The MMC was designed to gather baseline information on present conditions within the Metlakatla community and eventually build a database of consistent information to measure and track socio-economic indicators over time (Gupta, 2017). By conducting the census on an annual basis, the Metlakatla First Nation will have data on how their values and conditions are changing with time in relation to

development. While the MMC was designed primarily to support the data needs of the CEM program, it also combined information needs of other Metlakatla departments, collecting the information required for Managers to assess and track community needs, perceptions and satisfaction with programs (Gupta, 2017). A single survey approach was used because the survey designers wanted to improve coordination and communication between departments, provide a consistent methodological approach, allow for results to be analyzed across topic areas, and improve efficiencies and response rates (Compass Resource Management Ltd, 2015b). A single survey combining departmental interests should also reduce survey fatigue by avoiding surveying community members multiple times in a year (Compass Resource Management Ltd, 2015b).

3.2.2. Ktunaxa Nation

The Ktunaxa Nation is located in southeastern BC. The Ktunaxa Nation includes six Bands; four First Nation communities in Canada and two tribal communities in the United States (Figure 2) (Ktunaxa Nation, 2018). The Ktunaxa Traditional Territory covers approximately 70,000 square kilometers within the Kootenay region and historically included parts of Montana, Washington and Idaho. The population of the four communities in Canada is approximately 10, 000 (Interview December 16, 2017).
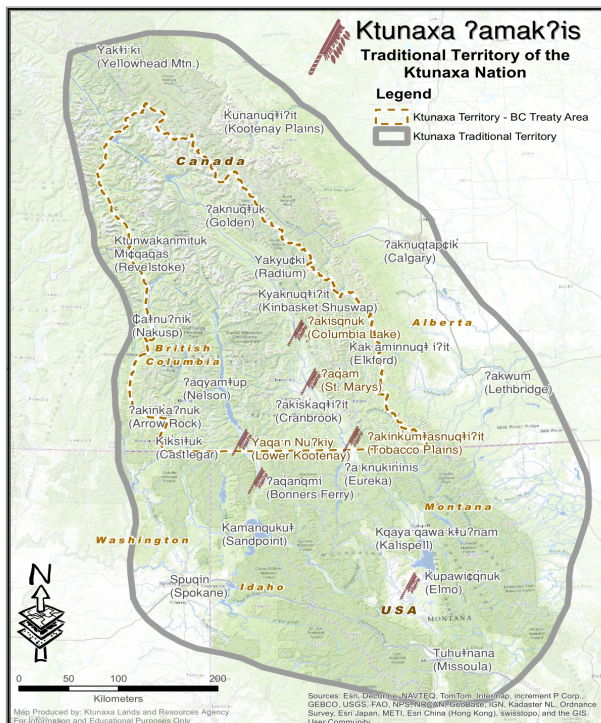
Figure 2. Traditional Territory of the Ktunaxa Nation. Territory of BC communities is outlined in the dashed brown line. Retrieved from http://www.ktunaxa.org/governance/ktunaxa-nation-council/

In 2010, the Ktunaxa Nation implemented the first iteration of the Ktunaxa Nation Census, a sample survey that collected information from the four Ktunaxa communities in Canada. The Ktunaxa Nation Census was developed and administered by the Ktunaxa in order to collect community-specific socio-economic data. The survey was developed to provide information to advance programs and services that more closely meet the needs of the community and to improve Ktunaxa decision-making and policy development. By administering the survey every four years, the Ktunaxa Nation Census aims to monitor baseline trends and track positive and negative changes in socioeconomic conditions (Interview December 16, 2017).

3.2.3. Musqueam First Nation

The Musqueam First Nation is located in the southwest corner of BC. The traditional territory of the Musqueam comprises approximately 1,500 square kilometers and includes what is now known as Vancouver, extending northwest up Howe Sound and east up the Fraser Valley (Figure 3) (Musqueam First Nation, 2017). Musqueam are descendants from the cultural group known as the Coast Salish, and have approximately 1284 registered members (Musqueam First Nation, 2017).
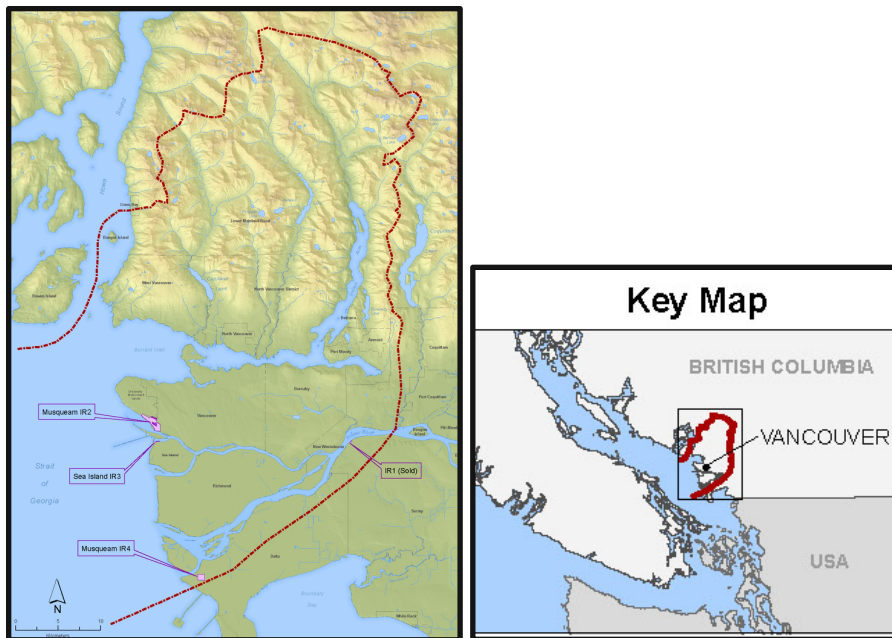
Figure 3. Musqueam Traditional Territory, located in the southwest corner of BC. Retrieved from http://www.musqueam.bc.ca/musqueam-traditional-territory-0

In 2011 Musqueam Chief and Council approved Musqueam's Comprehensive Community Plan (CCP). The CCP was a collaborative effort between Musqueam's planning streams to coordinate the community's short-term planning with a long-term community vision (Musqueam First Nation, 2017). The CCP was designed to improve the community's collective decision-making, minimize ad-hoc decision-making and move forward with a common purpose (Musqueam First Nation, 2017). As part of the CCP, a 4-year monitoring and evaluation cycle is in place to reflect on how well the vision of a sustainable, healthy and self-governing nation is being achieved (Musqueam First Nation, 2017). Part of the monitoring and evaluation process involved asking community members to fill out a Musqueam Community Census. The Musqueam Community Census was developed to provide Musqueam Administration with information about the community and the community's concerns, needs and visions (Musqueam First Nation, 2017). The information was used to help understand how the community is doing, monitor the community over time as the CCP progresses, and to plan for the future (Musqueam First Nation, 2017).

3.2.4. Tsawwassen First Nation

Tsawwassen First Nation is located along the South Coast of BC. Tsawwassen Traditional Territory is comprised of approximately 10,000 square kilometers spanning the southwest corner of the Lower Mainland and Salish Sea (Figure 4) (Tsawwassen First Nation, 2018a). Tsawwassen territory is bordered by the watersheds that feed into Pitt Lake, and down the Pitt River to the city of Pitt Meadows. The territory includes Burns Bog and part of New Westminster, following the outflow of the Fraser River just south of Sea Island, and includes all of Saltspring, Pender and Saturna Islands. It also includes the Point Roberts Peninsula and the watersheds of the Serpentine and Nicomeckl rivers (Tsawwassen First Nation, 2018b). Tsawwassen First Nation has approximately 430 members, with approximately half of them living on Tsawwassen Lands (Takasaki, 2014).
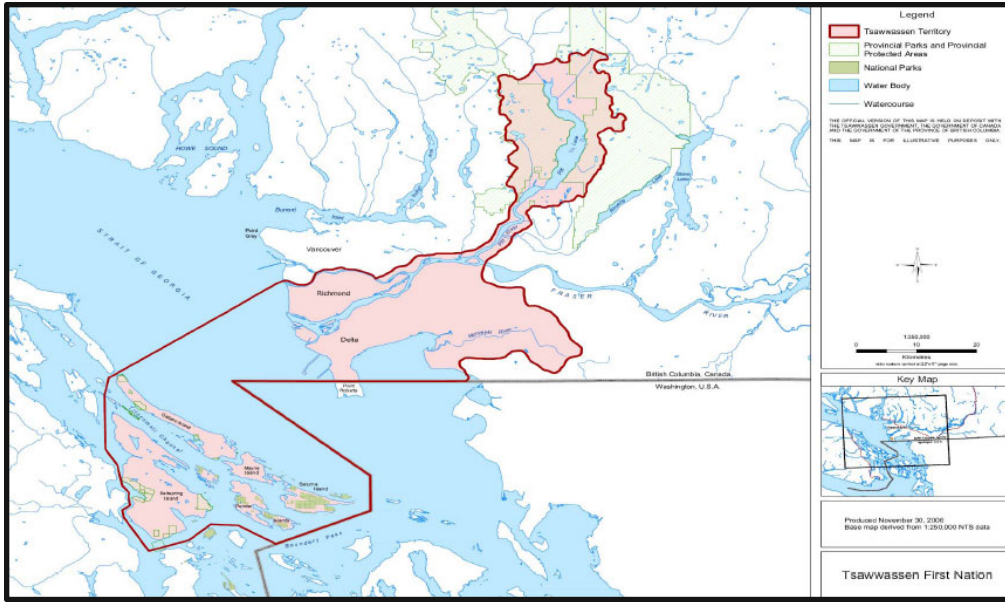
**Figure 4. Tsawwassen Traditional Territory, located in southwest BC.
(Government of British Columbia, 2008)**

Tsawwassen First Nation signed a modern treaty with the BC provincial and Canadian federal governments in December of 2006, which took effect in April of 2009 (Tsawwassen First Nation, 2018a). It was the first modern treaty finalized under the British Columbia Treaty Commission treaty process (The Nisga'a Treaty, signed in 2000, was negotiated outside of the BC Treaty Commission process). The Tsawwassen Treaty represents a comprehensive agreement that provides for the transfer of land to the Tsawwassen First Nation, recognizes aspects of self-government, and provides various tools that are designed to allow Tsawwassen First Nation to move forward as a self-governing nation (Tsawwassen First Nation, 2018a). Following the signing and finalization of the treaty, the Tsawwassen government commissioned a survey to measure multiple aspects of well-being in order to help understand the effects of self-governance on well-being in a treaty nation (Takasaki, 2014). The survey was designed to provide Tsawwassen leadership with an understanding of the current levels of baseline well-being in the Tsawwassen community and to provide a tool to track changes in well-being over time as self-government, along with new programs and services, is developed in the community (Takasaki, 2014).

3.3. Survey Methods Used in the Case Studies

An overview of the survey methodologies used in the Metlakatla Membership Census, the Ktunaxa Nation Census, the Musqueam Community Census and the Tsawwassen Well-Being survey is provided below and summarized in Table 3. The information in Table 3 documents and compares the following key survey design components: sample design, data collection methodology, questionnaire design, incentives, piloting, data collection, data analysis and dissemination, and survey evaluation. These key survey design components reflect the individual stages of a survey as described in Chapter 2.

3.3.1. Metlakatla Membership Census

The Metlakatla Membership Census (MMC) was developed to collect socio-economic data from Metlakatla members over the age of 15 living within the Metlakatla Traditional Territory. A census survey design was chosen because the Metlakatla population is relatively small and geographically contained; at the time of the survey there were approximately 310 Metlakatla members living in the traditional territory, with the majority living in Metlakatla Village or in the nearby city of Prince Rupert. The MMC is administered on an annual basis (Interview April 15, 2017). As of early 2018, the MMC had been administered 3 times; it was first introduced in 2015 and was administered again in 2016 and 2017. A self-administered approach was used, and several options were provided to respondents: the survey could be filled out via paper copies, computer-assisted modes using iPads, or through an online platform (Interview April 15, 2017). The survey instrument comprised a mix of previously used and new questions. Questions pulled from other surveys were used for common demographic or health questions, while topics specific to the Metlakatla, such as cultural activities, required developing new questions (Interview April 15, 2017). The first year the survey was administered, survey questions were tested by multiple people, including experts, SFU researchers, and Metlakatla staff. The survey was then pilot tested by a group of approximately 25 individuals, including both Metlakatla staff and members (Interview April 15, 2017). In subsequent years, questions were tested by the survey administration team.

The Metlakatla Communications Department led the survey promotion each year through a social media campaign that involved sending out emails and sharing information about the survey over Facebook. The survey was also advertised through the Metlakatla newsletter and through posters put up in the community. The first year the survey was administered, a promotional video where the Chief spoke to the importance of, and need for, the census was included in survey promotion to increase awareness and garner support for the project. Each year, data collection began in early August and lasted between three and five weeks (Interview April 15, 2017). In 2015 and 2016 the census was administered by three survey administration teams, each comprised of one SFU researcher and one Metlakatla community member. Each team went door-to-door in the community to deliver the census. In 2017, for the third iteration of the census, the three survey administration teams were comprised mostly of Metlakatla community members; only one SFU researcher assisted with survey administration. For the 2015 MMC administration, respondents were given the option to complete the survey using paper copies or iPads while the survey administration team remained in the room to answer questions, or left a paper copy that would be picked up at a later date (Interview April 15, 2017). Individuals who could not be reached in person were encouraged to fill out the survey online. Due to the fact that many Metlakatla members preferred using a paper version instead of an iPad to complete the census, the 2016 and 2017 administration primarily focused on paper-versions of the census, while maintaining the online option (Interview April 15, 2017). Each administration of the MMC used incentives in the form of prize draws and also handed out 'thank-you packages' comprised of tea, cookies and a candy as a gesture of appreciation. Prize draws for the 2015 administration included six iPads and five $100.00 gift cards, and 'thank you packages' were given to community elders. Prize draws for the 2016 and 2017 administration of the census consisted of one $500.00 gift card, and five $100.00 gift cards, and 'thank you packages' were given to each person who participated in the survey (Interview April 15, 2017). The first iteration of the MMC took respondents approximately 45 minutes to fill out. The number of questions were reduced after the first iteration, and, as a result, the MMC took approximately 30 minutes to fill out in 2016 and 2017. A response rate of 66% was achieved for the 2015 MMC, and rates of 69% and 38% were achieved for the 2016 and 2017 iterations respectively (Kwon & Roberts, 2017). Each year, SFU researchers presented a preliminary analysis of the results at the Metlakatla AGM, approximately two months after survey administration was complete. A more in-depth analysis in the form

of two technical reports were provided to the Metlakatla Stewardship Department. To date, data have been used internally for the CEM program and other Metlakatla initiatives such as the Coastal Training Center, which offers targeted training programs to improve employment opportunities for Metlakatla members. Data from the census were used to identify specific barriers to employment, allowing the Coastal Training Center to ensure the training programs addressed these barriers. Data collected through the census have also been used in EAs. For example, in the EA of the AURORA LNG project, Metlakatla management were able to provide data that demonstrated housing issues in the community, and as a result, the EA included housing as a valued component.

The MMC was evaluated by SFU researchers with input from community census takers. A survey methodology report, including recommendations for the next census administration based on lessons learned from the 2015 iteration, was prepared after the first iteration of the census was complete (Gupta, 2017; Gupta & Willis, 2016).

3.3.2. Ktunaxa Nation Census

The Ktunaxa Nation Census was developed to collect socio-economic data from members of the four Ktunaxa Nation communities in Canada to inform and improve decision-making within these communities. As mentioned above, although the survey is called the Ktunaxa Nation "Census," it is actually a sample-based survey. The Ktunaxa Nation Census is administered every 4 years. It was first administered in 2010, and again in 2014. The survey process was entirely internal: it was initiated by the Ktunaxa and designed and administered by community researchers. The survey was delivered through interview-assisted methods (Interview December 16, 2017). A survey administration team, comprised of community researchers, interviewed participants at their homes or places of work. Individuals who lived outside of the communities were interviewed in-person for the first iteration and interviewed over skype or by telephone for subsequent iterations (Interview December 16, 2017). Traveling to respondents' homes to conduct in-person interviews helped to develop a relationship with participants living outside of the communities, thereby allowing interviews for subsequent iterations to occur over skype or telephone. I was unable to determine the origin of survey questions used in the first iteration, but survey questions remained the same across years, with any new questions added to the end of the survey. Survey questions were

tested through workshops held in the communities where Ktunaxa members provided input on phrases or wording of questions (Interview December 16, 2017). The Ktunaxa Nation Census used incentives in the form of prize draws: a large flat screen TV was the main prize draw with multiple iPads as additional prizes (Interview December 16, 2017). The survey took between 35 and 90 minutes to complete, with males generally filling out the survey faster than females. The response rate improved significantly between the two iterations of the sample survey that have been completed to date: a 10% response rate was reported for the first iteration, and a 98% response rate for the second (Interview December 16, 2017).

Data collected through the survey were disseminated through multiple platforms: a high-level report of results was provided to upper management, and a summary document with visuals and descriptive statistics was prepared for community members. Data were also shared on the Ktunaxa community websites and at their AGM (Interview December 16, 2017). Information collected through the survey was used to inform community planning and to strengthen negotiation positions with the Province and various industry groups. Community-specific data collected from the survey were considered to be important for reconciliation, as the data were used by the Ktunaxa to assert the status and conditions of their community, what is important to them, what is needed and why (Interview December 16, 2017). According to a Ktunaxa researcher having these data allowed for more meaningful participation in political discussions, decision-making and policy development.

3.3.3. Musqueam Community Census

The Musqueam Community Census was developed to support the monitoring and evaluation of their Comprehensive Community Plan by gathering information from Musqueam members to understand how the community is doing. The census was first administered in 2012. Although the survey collected useful information, the small number of responses prevented data from being used to accurately describe the characteristics of the community and this iteration of the survey was instead considered to be a pilot version (Musqueam First Nation, 2017). In 2016, the 2012 census was reworked and was successful in obtaining benchmark data for the community against which future conditions can be compared and tracked over time. The 2016 Musqueam Census was developed and administered internally by Musqueam staff and members

(Interview October 27, 2017). A census approach was used to collect information from the target population of all 1278 members; the majority of whom lived on the Musqueam Reserve or in other parts of the lower mainland. The 2016 Musqueam Community Census was divided into a Household Census and a Personal Census. Both were self-administered with multiple options for filling out the questionnaire: paper copies were the predominant method, but computer-assisted, online, and mail-out methods were used as well (Musqueam First Nation, 2017). If assistance was requested, individuals from the survey administration team helped the respondents fill it out. The Musqueam Community Census was comprised of a combination of new and previously used survey questions (i.e., in other surveys), but all previously used questions were modified to ensure they were applicable to the Musqueam (Musqueam First Nation, 2017). Survey questions were reviewed and revised by Musqueam Administration Managers, staff, and other community members. The census was subsequently pilot tested by approximately 25 Musqueam members (Interview October 27, 2017).

To promote the survey a catchy logo was developed, and information about the survey was included in newsletters, posted on social media, including Facebook, and shared by word-of-mouth (Interview October 27, 2017). Survey administration occurred from early August through to the end of January, during which time the Household and Personal Censuses were open for all Musqueam community members and Musqueam households to complete using the Musqueam census website or paper copies of the census survey (Interview October 27, 2017). To deliver paper copies of the censuses the survey administration team went door-to-door on reserve and mailed-out the census to those who lived off-reserve and were not able to participate online (Interview October 27, 2017). The survey administration team was comprised of five census recorders, all of whom were Musqueam community members. Both cash rewards and prize draws were used as incentives. Each person who completed the survey was entered into a prize draw for computer tablets and received a $5.00 gift card to either Starbucks or Tim Hortons (Interview October 27, 2017). The Household Census could be completed in approximately 20 minutes, while the Personal Census took anywhere from 30 minutes to an hour to fill out. In 2016, the Personal Census achieved a 16% response rate and the household census a 33% response rate (Interview October 27, 2017). A preliminary report providing a descriptive analysis of the results in the form of a booklet was presented within three months of completion of the survey administration. A more in-

depth analysis of the 2016 results was ongoing as of fall 2017. To date, data from the survey have been used widely by Chief and Council, managers and senior management. Results have been used for strategic planning in a number of areas, including community planning, development planning, social program planning and financial planning (Interview October 27, 2017. Data have also been used for budget allocation, employment and training needs, housing needs and to support funding applications (Interview October 27, 2017). These data have been used during negotiations and communication with other governments.

3.3.4. Tsawwassen Well-Being Survey

In 2010, the Tsawwassen Well-Being Survey was developed to collect information on the well-being of Tsawwassen First Nation members following the signing of a modern treaty and the subsequent progression towards self-government. The survey was carried out as a collaboration between Tsawwassen First Nation and researchers from the University of British Columbia (UBC) (Takasaki, 2014).

A census design was used to collect information from the target population of all Tsawwassen First Nation members over the age of 18; a total of 260 members, most of whom lived on Tsawwassen lands or in the Lower Mainland (Takasaki, 2014). The survey was administered through in-person interviews, with the option of telephone interviews for individuals who could not be reached in-person (Takasaki, 2014). Tsawwassen First Nation provided UBC researchers with a list of criteria they wanted the survey to fulfill, which included: 1) maintaining consistency with well-being indicators used by the Canadian government, 2) reflecting measures used in other Indigenous well-being surveys, and 3) keeping the survey consistent with and reflective of Tsawwassen cultural values associated with well-being (Takasaki, 2014). As a result, survey questions included questions that have been previously used in other surveys, to allow for comparability with established well-being indicators, as well as new questions that reflected Tsawwassen First Nation's unique values and interests (Takasaki, 2014).

The survey was administered over the summer and fall of 2012. To promote the survey the Tsawwassen Government sent introductory letters to all Tsawwassen Members over the age of 18 explaining the relevance of the study and inviting them to participate (Takasaki, 2014). The survey administration team attended a Tsawwassen

community retreat to further explain the survey and to initiate the administration. Interviews were coordinated by a Tsawwassen Member who was hired to personally call each eligible Member to arrange a time to be interviewed (Takasaki, 2014). Interviews took approximately 90 minutes and incentives in the form of cash rewards were used (each respondent received $50.00 for filling out the survey). The survey achieved a 60% response rate. Survey data have been used by the Tsawwassen Government to better understand "how the community is doing" and have been used to inform environmental assessment for projects with the potential to impact Tsawwassen First Nation (Takasaki, 2014).

Table 3. An overview of survey methodologies used in the Metlakatla Membership Census, the Ktunaxa Nation Census, the Musqueam Community Census and the Tsawwassen Well-Being Survey.

Survey Methods	Metlakatla Membership Census	Ktunaxa Nation Census	Musqueam Community Census	Tsawwassen Well-Being Survey
Size and geographic location of survey target population	321 members living within Metlakatla Traditional Territory	10, 000 members located across multiple communities in southwestern BC	1637 members, with about three quarters living on reserve or in the Vancouver area, and the remainder living outside of the Vancouver area	260 members, with about two-thirds living on Tsawwassen lands or in the Lower Mainland, and the rest in Washington State or Interior BC
Purpose of survey	To collect community-specific socio-economic data for the CEM program and other departmental information needs	To collect community-specific data to improve decision making and better manage programs and services	To collect community specific data to use to monitor and evaluate the CCP, and to get a general sense of how the community is doing	To provide Tsawwassen leadership with an understanding of the current levels of well-being in the community
Survey Administration Structure	Initiated by the Metlakatla First Nation, and administered as a collaboration with SFU	Initiated, designed and administered by the Ktunaxa First Nation	Initiated, designed and administered by the Musqueam First Nation	Commissioned by the Tsawwassen First Nation, in partnership with UBC researchers
Sample design	Census	Sample Survey	Census	Census
Survey Type	Administered annually	Administered every 4 years	Administered every 4 years	One-time survey

Survey Methods	Metlakatla Membership Census	Ktunaxa Nation Census	Musqueam Community Census	Tsawwassen Well-Being Survey
Data collection methodology	Self-administered: pen and paper copies, online, computer-assisted methods	In-person interviews, telephone interviews	Self-administered: pen and paper copies, online, computer-assisted methods	In-person interviews, telephone interviews
Questionnaire design	Mix of questions pulled from other national-level surveys and modified to be more applicable to the community, and newly developed questions. Survey questions tested by SFU researchers, Metlakatla staff and Metlakatla members	Information on questions from original survey instrument unavailable. The same survey instrument was used for each iteration of the census, with questions modified based on community needs and input. Held workshop for people to provide input on phrasing or wording of questions	Mix of new and previously used questions. Most questions are from the 2012 Musqueam community survey but were modified to be applicable and specific to the Musqueam community. Survey questions tested by Musqueam staff and members	Mix of new questions and previously existing well-being questions that had been in previous surveys used by other statistical agencies
Piloting	Survey testing workshop with about 25 Metlakatla staff and members, invited feedback on content of survey & question wording	Information not available	Survey was pilot tested by 24 Musqueam Community Members	Information not available
Incentives	Prize draws. Prizes included multiple iPads and $100 gift cards, token 'thank you packages'	Prize draws. Prizes included a large flat screen TV (first place) and multiple iPads	Prize draws and cash rewards. Prize draws included multiple computer tablets. Cash reward was a $5.00 gift card to Starbucks or Tim Hortons for everyone that filled out the survey	Cash reward. Reward was $50 for each person who completed the interview
Communi-cations	Communications department promoted survey	Sent out physical letters to everyone	Designed a catchy logo for the Census, put up posters,	Letters sent to all Tsawwassen Members over the

Survey Methods	Metlakatla Membership Census	Ktunaxa Nation Census	Musqueam Community Census	Tsawwassen Well-Being Survey
	through newsletter, email distribution list, and Facebook. For the first iteration, a video of the Chief speaking about the census was provided to all members	Sent out emails, promoted it through social media, posters	included information in newsletter, online Facebook page, promoted at staff and manager meetings	age of 18, community member personally called each eligible Member to arrange a time to be interviewed in person or by telephone
Collecting data	Survey administration teams comprised of 1 SFU researcher and 1 Metlakatla community member went door-to-door to deliver census	Survey team of community members went door-to-door to interview Ktunaxa members	Survey administration teams comprised of community members went door-to-door in the community	Survey administration teams comprised of UBC researchers, community representatives from the Tsawwassen Government
Data dissemination	Data presented at annual AGM through PowerPoint presentation, and though 2 reports: The Results Report and the Methodology and Administration report	Disseminated results at AGM, included information on website, had packages with visualizations of results for community members	Survey data used to rank development objectives, prioritize goals and provide feedback. Survey used in monitoring and evaluating CCP	First analysis and survey report prepared by UBC researchers
Survey Evaluation	Documented through a Survey Design and Administration report that included a list of recommendations for future iterations.	No information available	Survey was evaluated by Musqueam staff that worked on designing and administrating the survey	No information available
Response rate	First iteration: 66% Second Iteration: 69% Third Iteration: 38%	First iteration: 10% Second iteration: 98%	Household: 33% Personal: 17%	60%
Utilization of	Used to inform	Used to make	Used for strategic	Used by Tsawwassen

Survey Methods	Metlakatla Membership Census	Ktunaxa Nation Census	Musqueam Community Census	Tsawwassen Well-Being Survey
survey data	the CEM program, data used by department managers, and has been included in the AURORA environmental assessment	stronger arguments with the province. Data used for negotiations with industry concerning development projects and determining what programs were needed. Data help the community to move forward in reconciliation processes	planning, budget allocation, funding application, development planning and other community planning needs. Also has been used for negotiations	government, in academic reports, and has been used in environmental assessments.

Chapter 4.

Comparison of the Case Studies' Methodologies

The general survey guidelines in the literature are a product of many surveys that have helped shape and refine the recommendations that exist today. Compared to the majority of survey research that has occurred, relatively few First Nations community surveys exist. The limited number of surveys makes it difficult to develop a set of comprehensive guidelines based on the work that has been done to date. However, through documenting and comparing the methods used in four First Nations community surveys, I identify what methods were used, where they align with the guidelines in the literature, and where they diverge. I then discuss whether, and why or why not, these variations were useful and effective.

4.1. Survey Stages Compared

A survey is the product of multiple stages of development. Surveys are commonly broken down into 10 individual stages: defining goals and objectives; determining administrative structure; determining sample design; choosing a method of data collection; designing the questionnaire; determining incentives; piloting; collecting data; analyzing and disseminating the data; documenting and evaluating the survey. Although the number and naming of the stages can vary, these 10 are commonly referred to in the literature on survey research as described in Chapter 2. Each of the survey stages is discussed below, comparing the recommendations provided in the literature to the methods that were used in the First Nations community surveys.

4.1.1. Setting Goals

This first stage of the survey involves formulating a statement of objectives to ensure survey content is appropriate and clearly defined. The guidelines recommend having a single, clear research question. However, a single clear research question may not always be evident in First Nations surveys that cover a number of topics in order to get a sense of 'how the community is doing'. The case study surveys collected information on a broad suite of socio-economic conditions to use for various programs,

such as monitoring and evaluating comprehensive community plans or cumulative effects management. While these surveys collect important information, having a broad and sometimes open-ended scope instead of a single defined research question can make it more difficult to formulate a precise description of what the survey is intended to measure. In addition, combined surveys, such as the Metlakatla Membership Census (MMC), where information needs from various departments are addressed in addition to the primary function of the survey, creates the potential for a large number of questions being added to the survey in an ad-hoc manner. Without a clear scope of survey objectives and research questions, it can be challenging to accurately determine what needs to be included in the survey and what should be excluded.

Surveys that cover a wide range of topics can successfully carry out this step by breaking the survey down into content areas, and then focusing on the objectives and goals for each content area (Statistics Canada, 2010). Reviewing the survey questions against the specific research questions for each topic area will help to ensure they meet the survey objectives. This will help to minimize unnecessary questions that collect 'what would be nice to know' versus what the community needs to know (Statistics Canada, 2010).

4.1.2. Administrative Structure

The guidelines and recommendations for administrative structures of surveys found in the literature are generally applicable across survey types. An interdisciplinary survey team structure is a widely used approach for designing and administrating a survey and was also commonly used in the case studies examined in this research. Interdisciplinary survey teams are encouraged because they are able to take advantage of a variety of skills and backgrounds, improving the overall quality of a survey (Statistics Canada, 2010). However, although the guidelines recommend that survey teams should be composed of individuals with differing technical skills, they do not address the aspect of who these individuals should be. The 'who' of the survey team, however, is important for First Nation community surveys. Each case study had survey teams that were comprised either wholly or partially of community members and the roles filled by community members were identified as an essential component of a successful survey. However, having community members involved in survey administration can also present a number challenges; these challenges are discussed further in Chapter 5.

In each case study the survey team was comprised of a mix of individuals who carried out different stages of the survey based on experience and capabilities. Those with research, planning or survey experience worked on the development of the survey instrument, in consultation with other members of the First Nation. Individuals from the community that regularly engaged in community activities and were well-known by the membership worked as part of the survey administration teams. The Musqueam Community Census was a combined effort of Musqueam staff and community members, taking advantage of the varying skills present within the community. The survey was overseen by the community planner and policy analyst but included efforts from others, including staff who were brought on to help with certain technical or specialized aspects of the survey such as graphic design, and five community members who filled the role of 'census takers' – administrating the survey instrument to each Musqueam community member (Interview October 27, 2017). The Ktunaxa took a similar approach; a Ktunaxa researcher experienced in survey research and data analysis helped to design the survey instrument and administration plan, and to analyse results, while community members were trained as 'census takers' to conduct the in-person interviews (Interview December 16, 2017). The Musqueam Community Census and the Ktunaxa Nation Census provide examples of a survey team that was entirely internal to the community; but in cases where the skills or capacity do not exist for certain components of a survey, working with an external researcher may be an effective approach. The MMC explored a survey team approach that involved a collaboration between the Metlakatla First Nation and external agencies, namely SFU researchers, but with some additional work by Compass Resource Management, a Vancouver based consulting firm. However, while a partnership approach was used to help establish the survey the ultimate goal is to have the MMC managed solely by the Metlakatla. SFU researchers worked closely with department managers and staff to develop questions, determine the data collection methodology, analyze data, and disseminate results (Interview April 15, 2017). For the survey administration stage of the census, community members were hired to be part of the survey administration teams that went door-to-door in the community to administer the census. For the 2015 and 2016 iterations of the census, each survey administration team was comprised of an SFU researcher and a community member, but in 2017 two of the three survey teams consisted solely of community members.

The Tsawwassen Well-Being Survey also took a collaborative approach, working with UBC researchers to fill roles that were both time consuming and required certain technical skills (Takasaki, 2014). Tsawwassen First Nation Government and community representatives guided the survey design by advising UBC researchers on the content and topics that should be included and helping to reviewed and modify questions as necessary (Takasaki, 2014). Tsawwassen community representatives also led the survey promotion and contacted all respondents to arrange an interview schedule for the UBC research team (Takasaki, 2014).

4.1.3. Sample Design

The same principles of sample design apply across surveys; the choice of which type of survey to carry out will ultimately depend on available resources, the survey population and goals of the survey. Surveys collecting information on the members of a single First Nation often meet the criteria for conducting a census: a small population living in a contained geographic location. The Musqueam Community Census, Metlakatla Membership Census, and Tsawwassen Well-Being survey all used censuses. In each case the membership was less than 1500 people, and the geographic population relatively concentrated (greater than 50% of members lived on reserve or in the surrounding area). The Ktunaxa Nation Census, which covered a survey population of 10,000 individuals from multiple communities in southeastern BC used a sample survey design.

Censuses were also identified as a useful approach when contact information for the membership was outdated or incomplete, thus making it difficult to identify and survey a representative sample population (Statistics Canada, 2010). Both the Metlakatla and the Musqueam did not have reliable contact information for all members when developing the survey. By sending out a link to the online survey through various social media platforms and going door-to-door in the community, the Metlakatla and Musqueam were able to update contact information in their membership lists and add individuals to the lists who had previously been omitted. Providing inputs for the development of sampling frames for subsequent surveys is recognized as a common, multipurpose feature of surveys (Gonzales & Eltinge, 2010). Conducting a census survey can therefore help to refine the membership list, establishing an accurate sample frame which can be used for future census or sample surveys.

Except for the Tsawwassen Well-Being Survey, each of the case study surveys is conducted on a regular basis. The Musqueam Community Census and the Ktunaxa Nation Census are both administered every 4 years. The Metlakatla Membership Census is administered on a yearly basis. While an annual census can quickly build a database of information that allows for close monitoring of changes and trends in the data, administering a survey on an annual basis can also result in greater survey fatigue among respondents. The third year the Metlakatla Membership Census was administered it achieved a considerably lower response rate than the first two years, and this may be in part due to survey fatigue of community members.

4.1.4. Data Collection Methodology

The four main modes of data collection are face-to-face interviews, telephone interviews, mail questionnaires and web surveys. Guidelines from the literature do not recommend a specific mode of data collection but suggest that the choice of data collection methodology should be informed by the research objectives, the content of the survey, the population being surveyed and the resources available (De Leeuw et al., 2008). Older survey research literature tended to promote using a single mode for data collection as it can produce high-quality data due to consistency across respondents. Recently however, mixed-mode data collection has gained popularity as the benefits have been more widely realized (De Leeuw et al., 2008).

All four case studies used at least two different methods for data collection; in three of the four cases more than two were used. Personal interviews and self-administered pen and paper copies were the most commonly used modes. Online platforms were only included in two of the case studies, where they served as an alternative method to reach certain demographics, including younger participants or those living further away. Telephone and mail-out methods were used the least and were only used in circumstances where individuals were living far away. Computer-assisted methods, where survey administrators provided respondents with iPads or tablets to fill out the survey, were largely unsuccessful and unpopular in the two case studies where they were tested. Although the literature highlights the benefit of computer-assisted methods and indicates a positive trend in the use of computer-assisted modes, the case studies do not suggest computer-assisted modes will have the same success when used for First Nation community surveys. Both the Musqueam and

Metlakatla censuses provided respondents with options to complete the survey on an iPad or tablet, or to fill out a paper copy and, given the choice, respondents regularly showed a preference for paper copies of the survey (Interview April 15, 2017 & October 27, 2017).

4.1.5. Questionnaire Design

Designing the questionnaire involves identifying, selecting and testing survey questions. With respect to determining which questions to include, the literature recommends using existing and previously tested questions as much as possible. While this is a valuable practice for certain surveys, it is not as applicable to First Nation community surveys. First Nation surveys can range from containing solely new and unique questions, to having a mix of new and previously used questions. The balance between new and previously used questions will depend in part on the purpose of the survey and the inventory of questions from previous surveys. In surveys where the goal is to compare characteristics of the First Nation population to results of regional or national surveys, or against established indicators, there will be benefit in importing questions directly so as to allow for comparability. In surveys where the focus is to collect information on values and indicators specific to the community, new questions will need to be developed.

Many First Nations community surveys collect some basic commonly collected demographic data and unique data related to specific information needs of the community. While common demographic questions can be drawn from other similar surveys, collection of unique data requires the creation of new questions, or, in some cases, modifying questions on the same or similar topic to make them more locally relevant. Survey questions for the Metlakatla Membership Census were designed to collect information on valued components that had been identified by the community and reflected topics that were important to the Metlakatla First Nation (Interview April 15, 2017). Some of the identified valued components and their indicators were not unique to Metlakatla (e.g., housing conditions, chronic health indicators), while others, such as cultural activities, were. For the topics that were unique to the Metlakatla, there were no previously available, tested questions that could be directly applied to the Metlakatla Membership Census, and new questions had to be developed. For example, the Metlakatla Membership Census included language questions about Sm'algyax, their

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traditional language, and specific cultural activities Metlakatla members regularly engaged in. Similarly, the Musqueam Community Census modified or created a large proportion of their survey questions to be Musqueam specific. The Tsawwassen Well-Being Survey is also an example of a survey designed to balance unique and previously used survey questions. Previously used questions were necessary for comparability with existing indicators, while new questions were developed to capture community-specific measures such as traditional food collection and consumption, social issues in the community and cultural activities (Takasaki, 2014).

Developing new questions or modifying previously used questions requires careful question design and thorough question testing. Although questions developed for First Nations surveys may address unique concepts, their development will still benefit from following the principles of good question design outlined in the literature and summarized in Chapter 2. One key guideline is to test fully all new questions. The literature indicates that survey questions should be tested by experts in their fields; for many questions in First Nation community surveys this likely means the community members themselves. Each case study tested survey questions on multiple individuals from the First Nation, including department managers, staff, and community members. Both the Metlakatla Membership Census and the Musqueam Community Census made important changes to the questions based on feedback from community members that would not have been identified by individuals who were not from the community (Interview April 15, 2017 & October 27, 2017). The Tsawwassen survey committee reviewed questions to ensure they reflected Tsawwassen's specific understanding of well-being (Takasaki, 2014). The Ktunaxa Nation Census held events for community members to review questions and to provide input on phrasing or wording.

4.1.6. Incentives

Evidence from the literature suggests that cash incentives are generally the most effective type of incentive and that pre-payment is more effective than a promised incentive given at a later time (Dillman, 2007). The type of incentive used can vary widely depending on resources and the population being surveyed, and a range of incentive types were used in the case studies. Prize draws were the most commonly used incentive; the Musqueam, Metlakatla and Ktunaxa all used prize draws. Prize draws included items such as iPads, TVs, or $100 gift cards. Although prize draws were

considered useful, they were not rated as being extremely effective for the MMC by survey administrators (Interview April 15, 2017). Cash incentives were used in the Musqueam Community Census and Tsawwassen Well-Being Survey. Cash incentives in the nature of $5.00 gift cards given out to each person who completed the survey received the highest rating in terms of effectiveness by individuals involved Musqueam survey administration (Interview October 27, 2017). The variation in response rates between the case studies and between different years of the same case study do not show a correlation to the type of incentive used. Prize draws were used for the surveys which had the highest response rates (the second iteration of the Ktunaxa Nation Census which had a 98% response rate and the second iteration of the Metlakatla Membership Census which had a 69% response rate), but were also used for surveys with lower response rates (the first iteration of the Ktunaxa Nation Census which had a 10% response rate, and the third iteration of the Metlakatla Membership Census, which had a 38% response rate). Similarly, cash incentives were used in the Tsawwassen Well-Being Survey, which had a high response rate (60%), but were also used in the Musqueam Community Census, which had lower response rates (16% for the personal survey and 33% for the household survey). While incentives have the potential to have a strong impact on response rates, no obvious trends emerged between response rates and type of incentive used in the case studies examined in this research.

4.1.7. Piloting

Piloting a survey is identified as an important stage in the survey process in the literature, and this held true for the case studies as well. Each survey included a pilot survey which produced important feedback that was used to modify and improve the survey. Piloting, like question testing, is most effective when community members are involved. Pilot testing in the case studies included both members and non-members (staff) and it was found that members provided essential feedback on survey instrument and methods that would not have been identified otherwise.

4.1.8. Data Collection

The data collection/survey administration stage involves collecting the required information for the survey (Statistics Canada, 2010). An important component of data collection identified in the literature is for survey administrators to present the study to

participants in a way that makes them feel it is important and relevant and to specify how the survey results will be useful (Dillman et al., 2014; Floyd & Fowler, 2009). This is true for any survey but may be particularly important for surveys with First Nations participants given the level of survey fatigue that exists in many First Nations communities.

To ensure participants were aware of the survey and its benefits, a communications strategy was used in the four case studies to promote the survey in advance of data collection. In some cases, the communications department carried out this role, promoting the survey through social media platforms, email blasts, posters and by including information in the newsletter. In the Tsawwassen Well-Being survey, the Tsawwassen government sent a letter to each member to inform them about the survey (Takasaki, 2014).

Each of the case studies involved survey administrators going door-to-door to deliver the survey. Individuals were also emailed or phoned in advance to schedule times to conduct interviews, or to pick-up and drop-off the paper-based surveys. The literature recommends following a formalized contact and date specific follow-up schedule for survey administration. Most of the case studies relied on a more informal approach, especially for follow-ups, which was possible because of the relationship between the community members on the survey administration team and the respondents. This approach may be more effective than a formal follow-up schedule, given the regular social interactions that occur in many small First Nation communities. Each First Nations survey also involved some aspect of face-to-face contact with survey respondents during the data collection stage, whether it was carrying out in-person interviews or personally dropping off paper copies of the survey for individuals to fill out on their own. Face-to-face contact helps to build relationships and trust, which are especially important for surveys that are administered on a regular basis. Face-to-face contact also better allows survey administrators to provide information on the study and specify how the survey results will be useful. Because of the potential distrust of, and unease around, external researchers, face-to-face contact, and the explanation of the survey and its benefits, may be best carried out by the community members on the survey administration team. Another strategy used in the data collection phase was introducing the survey through families. Ktunaxa researchers noted that by explaining what the survey was about and why it was important to the older members of the family,

younger family members were more likely to participate after the survey gained the approval of the older members (Interview December 16, 2017). This can be particularly effective in First Nation communities where there are large extended families that can share information about the survey.

Timing and length of data collection varied amoung the case studies. The Musqueam Community Census and Tsawwassen Well-Being Survey each carried out data collection over multiple months. Data collection for the Tsawwassen Well-Being Survey occurred during the summer and fall months (Takasaki, 2014), and for the Musqueam Community Census it extended from January to August (Interview October 27, 2017). The Metlakatla Membership Census had a shorter administration period, ranging from 3 to 5 weeks, and occurred during August and into September. While the first two iterations achieved high response rates when data was collected during the summer, the third iteration experienced greater challenges concerning availability of community members during the same time of year, which contributed to an overall lower response rate. Timing of fishing seasons or local harvests and community events can have a large impact on the availability of respondents to participate in community surveys and it is important that data collection be planned accordingly.

4.1.9. Analysis and Dissemination

Delivery and presentation of final results are very important as most people judge the importance of the survey through the reports or data that are disseminated. Dissemination guidelines in the literature suggest that information presented to users should be accurate, complete, accessible, understandable, useable, timely and meet confidentiality requirements (Statistics Canada, 2010). These principles are also applicable to First Nation community surveys. Analyzing survey data and disseminating results in a timely fashion is a key step for First Nations surveys. Given the historical context of many years of research where First Nation communities participated in studies without seeing results, First Nations surveys should prioritize disseminating results to the Chief and Council, department managers and staff, and the general membership in a timely and useful way.

The main method of dissemination that is highlighted in the literature is a report with tables and charts. However, the case studies demonstrate the need for data to be

more widely disseminated than just through a report. The case studies disseminated results in a number of ways to address the various users of the survey data: a technical in-depth report was provided to Chief and Council, department managers and staff, while a more accessible summary of findings and main conclusions was made available to the community members. An in-depth report for Chief and Council allows the survey results to be used for internal decision-making, planning and policy development, funding applications, and evaluating community initiatives and programs, among other things. Providing only a technical document for all of the survey population is not recommended as this method of dissemination is only meaningful to a small user group. Having additional ways of disseminating the results to the general survey population is essential. The case studies disseminated results in the following ways:

- Technical Reports

- Printed booklets (also available electronically)

- Short Pamphlets

- Information packages with visual representations of the data

- PowerPoint presentations

- Information shared on the First Nations website

The case studies highlight the need for, and importance of, diverse ways of disseminating the results to ensure they reach, and are useful to, a wide range of user groups. Having simple visual representations of the data and ensuring both online and print options are available was noted to be important.

Local community events that draw a large portion of the membership can also be an effective way to present results. The Annual General Meeting (AGM) was one event commonly used in the case studies as a venue to share results. The Metlakatla First Nations AGM is one of the most well-attended events of the year and occurs each fall, approximately two months after survey administration finished. The AGM provided an opportunity to present preliminary results back to the community shortly after the survey finished, reminding people that the data were being used to track and measure the community-identified valued components. It also was a way to explain the survey to

those who missed it, and to obtain contact information from anyone who was not contacted for the survey. The Ktunaxa used their AGM not only to present preliminary findings from the surveys completed so far, but also as an opportunity for participants to fill out the survey if they had not done so (Interview December 16, 2017).

4.1.10.   Documentation and Evaluation

A process of documentation and evaluation should be carried out for all surveys, irrespective of type. Reflecting on the methods used is an important way to improve future iterations and documenting the survey process builds capacity for future survey administrators. Even if the survey was a one-time survey, it is likely that there will be a need for another survey in the community at some point in the future. Details documenting and evaluating past surveys will be extremely valuable to these future surveys. Ideally the evaluation process will involve reflection and recommendations by everyone involved in the survey process, including both community researchers and external researchers. Survey administrators involved in the Metlakatla Membership Census documented survey administration methods and provided recommendations for future iterations in a report given to the Metlakatla Stewardship Department (Interview April 15, 2017). SFU researchers working on the Metlakatla Membership Census change from year-to-year and thus having a detailed report documenting the survey design and administration was vital to maintaining consistency between years. The Musqueam Community Census carried a more informal process of documentation and evaluation which included a discussion of the overall process and noting details of the methods used and ideas for future iterations. Since the main survey administrators were Musqueam staff members and would continue to lead the survey in following iterations, a detailed and formalized report was not as essential.

4.2. Other Considerations for First Nation Community Surveys

Conducting survey research with First Nation communities is not just about the survey but is part of a broader context of research with Indigenous peoples. In completing interviews and doing background research on this topic, the need for ethical and respectful research was a recurring theme. Any external researcher working with, or for, a First Nation community must approach the work in a way that ensures their

research is respectful and follows mutually accepted ethical principles (Ball & Janyst, 2008). While this is partially captured in the methodological choices used and is touched on in the comparison of survey stages described earlier in this chapter, it is worth discussing more fully.

Menzies (2001) writes that "doing research with, for or among [Indigenous] peoples presents the social researcher with a special set of challenges that are simultaneously personal, institutional and political" (p. 20). Although the number of Indigenous researchers has increased over the last decade, a large portion of research about Indigenous peoples continues to be led by non-Indigenous investigators (Ball & Janyst, 2008). Many researchers have a poor understanding of the culturally destructive government policies that affected First Nations communities, including that of denying self-government (Ball & Janyst, 2008). Social researchers who are affiliated with mainstream institutions are considered to be "located at a nexus of power in the dominant society" (Menzies, 2001 p. 22). In order to make a meaningful contribution, researchers working with Indigenous communities must ensure their approach becomes part of a larger process of decolonization (Menzies, 2001; Ball & Janyst, 2008). Researchers hired by a First Nation are not removed from this issue and do not escape the responsibility to carefully reflect on their research; the fact that an individual has been hired or is working in partnership with a First Nation does not automatically mean that the research is respectful (Menzies, 2001). A respectful research protocol must be developed and followed irrespective of whether research is initiated by a First Nation (Menzies, 2001).

A first step in ensuring research is respectful is to gain an understanding of the history of Indigenous peoples of Canada, and of the specific First Nation or other Indigenous group for which the research is being conducted. Harding et al. (2012) notes that in the United States "few non-native researchers possess awareness of … the continuing effect of American colonialism on the peoples they seek to study" (p. 6). In Canada, the need for education on the history of Indigenous peoples was underscored within the Truth and Reconciliation Commission's Calls to Action:

> We call upon federal, provincial, territorial, and municipal governments to provide education to public servants on the history of Aboriginal peoples, including the history and legacy of residential schools, the *United Nations Declaration on the Rights of Indigenous Peoples*, Treaties and Aboriginal

rights, Indigenous law, and Aboriginal–Crown relations. (Truth and Reconciliation Commission of Canada Calls to Action # 57)

Although survey research and the work of public servants may appear quite distinct, the underlying message that to work effectively with Indigenous peoples of Canada one must be knowledgeable of their unique history is the same. Without an understanding of the legacy of colonialism, and the history of traumatic experiences among Indigenous people, researchers cannot properly adapt research projects to accommodate Indigenous concerns or avoid triggering traumatic memories and fear (Ball & Janyst, 2008). Underlying the relationships of research partnerships between non-Indigenous researchers and Indigenous communities is a history of discrimination, forced assimilation and expropriation of resources and territory (Menzies, 2001). For some, the legacy of colonialism continues to exist in feelings of distrust and unease towards university or government agencies (Fletcher 2003; Menzies, 2004). Researchers developing new relationships with a community must therefore be aware of the historical context to ensure their research methods do not perpetuate historical injustices (Fletcher, 2003).

Just as methodologies and lessons learned from past First Nations community surveys can be useful for future surveys, researchers working with a First Nation can benefit from the knowledge of other research programs that have documented ethical and respectful practices for collaborations between First Nations and external research partners. Community-based participatory research (CBPR) offers such insights, and researchers working on First Nation community surveys can benefit by incorporating approaches from CBPR into their methodology.

4.2.1. CBPR with Indigenous Communities

The value of CBPR as a research method that is both appropriate and beneficial for research partnerships with Indigenous communities has been widely recognized (Ball & Janyst 2008; Drawson & Toombs, 2017; Fletcher, 2003; FNIGC, 2014; Koster et al., 2012; LaVeaux & Christopher, 2009; Menzies, 2004). In Canada, CBPR was developed among Indigenous communities in the context of land claim negotiations and impact assessment of large scale industrial projects (Fletcher, 2003). Since then, CBPR has played a critical role in building productive working relationships between Indigenous communities and academic researchers (Fletcher, 2003). CBPR recognizes the

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necessity of incorporating local realities into program design and acknowledges capacities of community experts to inform research design and decision-making processes to effect meaningful change (Fletcher, 2003). This community involvement facilitates the development of more culturally appropriate methods, ultimately making projects more effective and efficient (Viswanathan et al., 2004). CBPR methods have made important contributions for shifting research practices to research conducted *by*, *for* and *with* (as opposed to *on*) Indigenous people (McGregor, 2010).

CBPR is not represented by a single method of research, rather, it is characterized by a flexibility of thought and action (Fletcher, 2003). The CBPR approach for developing and maintaining a working relationship with a community is an open-ended framework to be reviewed and modified as each situation requires (Fletcher, 2003). However, despite a wide diversity in application, within the CBPR framework there are some common components that are applicable across research projects.

CBPR stresses the importance of trust and place. Strong relationships of trust serve as a foundation for ethical engagement in partnership research (Ball & Janyst, 2008; Menzies, 2004). Geographic proximity, time, personal risks, funding, open communication, and flexible programs of activity all contribute to the development of trusting relationships (Ball & Janyst, 2008). Academic partners involved in CBPR with Indigenous peoples agreed that spending time in Indigenous communities, engaging in conversation with members, and actively listening to and respecting the ideas of Indigenous knowledge holders were all essential to establishing relationships based on mutual trust (Castleden et al., 2012). This engagement also helps external researchers in recognizing the culture of a particular place, a necessary piece of employing appropriate methodologies (Koster et al., 2012). The social and political contexts in which research takes place must also be recognized, and their influence incorporated into research question development, project design and dissemination of results (Fletcher, 2003). At the outset of the research project, exploring local community dynamics with respect to research in the past, attitudes towards outside agencies, current issues of concern and other factors, can help to provide background knowledge about local issues thereby allowing researchers to effectively engage with the community and develop positive working relationships (Fletcher, 2003).

Chapter 5.

Discussion

5.1. What Worked? Common Themes and Important Considerations

This chapter builds on the guidelines identified from the literature review and the comparison of methodologies of the First Nations community surveys provided in Chapter 4 to address the research question: *How should survey research be designed and conducted in First Nation communities*? The previous chapter compared methods of four First Nations community surveys to the recommendations from the literature for each of the ten survey stages. In this chapter, I identify nine important methodological considerations for First Nation community surveys by highlighting and discussing strategies that were common among the case studies and judged to be effective by my interviewees. I then summarize these findings by providing a set of guidelines that are based on the nine considerations discussed in the chapter. Some of the guidelines/considerations are specific to the methods for survey design, but many also address methodologies that touch on the broader context of respectful research and how the different survey stages can be approached to incorporate good practices. Incorporating strategies and methodological approaches judged to be effective by interviewees into the considerations and guidelines presented in this chapter results in a greater aspect of subjectivity to the findings, as they include personal perspectives that have not been formally evaluated. However, because interviewees were intimately involved in the survey process, they are well-placed to reflect on the effectiveness and acceptability of the different survey methods within the community.

5.1.1. Spending Time in the Community Helps to Establish Effective Working Relationships

When a First Nations community survey is developed in partnership with an external agency, it is critical that the external researchers spend enough time in the community to build good working relationships and trust with the community. Examples of CBPR projects with partnerships between academic institutions and Indigenous

communities found that spending time in Indigenous communities is a key component of the research project as it is essential to establishing relationships based on mutual trust (Castleden et al., 2012; Moore et al., 2017). Taking time to establish these relationships early on in the research process helps to incorporate community participation in all stages of the research process a meaningful way. Time spent in the community also helps researchers to better understand past and current issues in the community as well as the community's previous experiences with research (Castledon et al., 2012).

Similarly, external researchers working on First Nations community surveys need to spend time in the community in order to establish relationships that lead to positive and effective working relationships. Community involvement and feedback on survey design and administration processes are critical to ensuring the survey is carried out in a way that is appropriate and beneficial for the community. However, in order to have honest communication and open dialogue around the survey and the methods used, community members need to feel comfortable sharing their thoughts and opinions. SFU researchers assisting with the Metlakatla Membership Census found that it took multiple community visits, and sometimes staying for extended periods of time, before community members began to provide more honest feedback about the survey.

5.1.2. Census Surveys can be Practicable and Effective

Census surveys are often overlooked due to their perceived high costs and resources. These perceptions are not unfounded; conducting a census on a large population that is widely dispersed will generally require more staff, greater financial burden and a longer time commitment than a sample survey (Australian Bureau of Statistics (ABS), 2013). Some First Nations have large memberships, such as the Squamish, Cowichan, Lax Kw'alaams and Haida Nation which all have between 3000 and 5000 members (INAC, n.d.). Conducting a census survey for these large communities may not be feasible. However, there are also many smaller First Nations communities where the target population is small and exists in a contained geographic area that are well-suited for a census (Statistics Canada, 2010). In these communities, the incremental costs of a census may be small relative to the sample size that would need to be used to ensure statistical significance (Statistics Canada, 2010).

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Census surveys offer additional benefits to First Nation communities. Because they are not subject to sampling error, censuses are recognized as an effective and reliable tool for developing benchmark data that future studies can be compared to (ABS, 2013). By using a census survey, First Nations looking to monitor socio-economic conditions can establish reliable and accurate benchmark data. Having baseline information as a starting point from which to measure progress is critical to enabling communities to use information to make meaningful decisions about programs, policies and initiatives that will benefit the community (Bruce et al., 2010). Censuses can lay the groundwork for establishing a reliable database of information, and, as described in Chapter 4, a complete and accurate survey frame for the membership. Once these data are established, the First Nation may decide to implement sample surveys as a way to monitor the baseline situation.

5.1.3. Prioritize Capacity Building

As noted in Chapter 4, a large portion of research about Indigenous peoples is led by non-Indigenous investigators. Building capacity for more Indigenous researchers and Indigenous managed projects is therefore a priority for Indigenous people across Canada (Ball & Janyst, 2008). Any survey that is conducted as a partnership between a First Nation and an external agency should prioritize capacity building within the community and support local control over the project. Where surveys are completed in partnership with academic institutions, university researchers must carry out their research activities in a way that supports the goals and interests of the First Nation, which in many cases is related to advancing self-government (O'Neil, 2005). The need for commitment to capacity building was emphasized in each of the case studies where the survey was a combined effort between the First Nation and an external agency.

Hiring research staff from the community rather than an external institution is one way to help build capacity (Moore et al., 2017). In cases where there is no local expertise, forming working groups comprised of researchers and community representatives is an effective way to pass on specific knowledge and skills needed for community researchers to take the lead on future projects and to provide a lasting benefit (Fletcher, 2003). Thorough documentation and evaluation of the survey also helps to develop capacity as it provides the First Nation with the information to carry out and administer future surveys.

Indigenous community-academic partnerships can be effective to strengthen capacity on both sides of the research partnership and support the creation and sharing of mutually beneficial knowledge (Ball & Janyst 2008; Castledon et al., 2012). Partnering communities can benefit from the knowledge of social, natural and health scientists, and learn procedural research skills including data collection and analysis. In turn, external researchers are given opportunities to learn about Indigenous ways of knowing and communication, as well as community-specific procedural skills such as cultural protocols, ceremony and relational ethics (Ball & Janyst, 2008; Castledon et al., 2012).

The importance of building capacity is further highlighted in the Mi'kmaw Ethics Watch; a set of Indigenous-developed principles and protocols that aims to protect the integrity and cultural knowledge of the Mi'kmaw people. Mi'kmaw protocols outline that all researchers are obligated to build capacity in the community by imparting new skills throughout the research process whenever possible (Mi'kmaw Ethics Watch, 2018). Capacity building is not just a priority for Indigenous peoples of Canada; tribal leaders in the United States have also expressed a need for skilled staff to meet community data requirements (Rodriguez-Lonebear, 2016). Creating a skilled data workforce is critical to address many of the barriers to tribal development, including: gaps in tribal data infrastructure, being subject to administrative data collections that do not meet their needs, and contending with problematic and inaccurate enumeration by other governments (Rodriguez-Lonebear, 2016).

5.1.4. Ensure Questions are Community Specific and Test Questions with Community Members

When developing the questionnaire for a First Nation community survey, using previously used questions from other surveys on similar topics can seem like a useful approach given the benefits to using 'tried and true' questions (Cloutier & Langlet, 2014). However, unless the purpose of the survey is to compare the characteristics of the First Nation to specific information on the broader population, importing questions directly from other surveys should be minimized, and questions should be modified or created to be community specific. Questions directly pulled from other surveys are likely to have been developed in non-Indigenous contexts, including non-Indigenous interests and research paradigms that may not be connected to Indigenous knowledge and community life (Stairs & Bernhard, 2002).

Including questions that were created or modified to be of particular relevance to the First Nation will increase the likelihood that respondents will fill out the survey and should create a positive perception of the survey in the community. Compared to federal or provincial survey questions that have generic wording, community specific survey questions can customize content of the survey to the local context. When presented with community-specific questions, participants see that the survey was designed with the unique needs of the community in mind, helping to shift the feeling of being a 'subject' of external research programs, to consenting participants contributing important data to their community-led research initiatives.

A study of Indigenous research reviewed by Ball and Janyst (2008) reiterated that a common sentiment among First Nations was that they have been 'researched to death' and experienced no benefits. As a result, some First Nations individuals expressed an unwillingness to participate in national-level surveys, or share information with national-level studies, but were willing to contribute information to research programs that were by the community and for the community (Ball & Janyst, 2008). Thus, a survey where all the questions are the same or similar to those found in national-level surveys may dissuade some members from participating, even if the survey is community led. These findings do not suggest a survey instrument must be comprised of entirely new questions, but that ensuring that a portion of survey questions are customized to the First Nation is important.

Community pre-testing of the questions and the final survey instrument is also essential. While feedback from other testers, such as staff or experts of a particular field, is useful, they are unable to highlight the same issues that the First Nation community members can identify. Individuals from a range of demographics should be included in the pre-testing workshops to allow for input based on local knowledge from different backgrounds, ages and genders within the First Nations community that reflects the diversity of the target population.

5.1.5. Community Members Should be Part of Survey Administration

The survey administration team for First Nation communities should be chosen carefully. Having the right people going door-to-door to deliver the survey can have a strong impact on the way community reacts to the survey. The case studies demonstrate

that having community members who are well-known and actively engaged in the community can help improve the data collection stage. Community-based research assistants can help to facilitate a high response rate by establishing a sense of trust around the project and by using personal connections to encourage participation in the survey. They are also able to use informal approaches to promote the survey or follow-up with respondents who have not yet completed the survey. Where capacity or resources need to be supplemented by external resources, having community members work together with external researchers to carry out this stage is important for the success of the survey. The Metlakatla Membership Census was delivered through administration teams working in pairs composed of an SFU researcher and a Metlakatla member and this structure was found to be effective. This type of approach also helps to develop the skills and capacity needed for the First Nation to take the lead on survey administration for future surveys.

The need to involve community-based research assistants in the data collection stage has also been recognized in various CBPR projects with Indigenous partners. Casteldon et al. (2012) found that community members from the Indigenous community were "much more effective in initiating the data collection process and being the primary person of contact…because they are trusted" (p.169). They were better able than outsiders to collect data involving face-to-face interactions because of their familiarity with most participants (Ball & Janyst, 2008). Specifically, they found that community researchers were more able than non-Indigenous researchers to respond with empathy and support for participants who described difficult or upsetting incidents (Ball & Janyst, 2008). The potential benefits of having community members involved in survey administration is further underscored by research in Australia. The Indigenous Community Engagement Strategy, a program aiming to enhance the Australian Bureau of Statistics (ABS) engagement with Indigenous peoples in both data collection and data dissemination, suggests that local facilitators are essential in creating a more positive survey experience for respondents, and ultimately improve the quality of information collected (Jelf, 2016).

Community-based research assistants contribute valuable skills and knowledge to the research project that would otherwise not exist. If time and resources permit, working with community-based research assistants prior to the start of data collection to help with additional survey planning and testing can be useful. Ball and Janyst (2008)

found that community participants were well positioned to advise on research strategies that were informed, respectful, and protective, and were able to identify vulnerable individuals and groups, sensitive topics, and inappropriate procedures. Community-based research assistants may also be best placed to plan and conduct participant recruitment, and to announce the project in their communities at local events and forums (Ball & Janyst, 2008).

Hiring community members to work on the data collection can also present some challenges. Community dynamics and interpersonal relationships are complex, and communities may have internal divisions or kin relations that make it difficult for some individuals to work together (Fletcher, 2003). Given the role of the community researcher in promoting and delivering the survey, it is important that they are well-liked within the community (Castledon et al., 2012). To make sure the right person is chosen, individuals for this role should be selected internally; an external researcher is not in a position to recognize or understanding the social dynamics of the community regardless of their experience level or skill set. One way to approach this task it to ask community leaders to nominate and select individuals well-suited to the job (Ball & Janyst, 2008). Another way to positively engage with the social dynamics in the community is to develop survey administration teams that are comprised of individuals from, or that have positive relationships with, each of the major family lines in the community (Interview October 27, 2017). Having family connections among the survey administration team can improve the likelihood of effectively engaging with all the individuals from the community.

Another potential challenge of community members involved in survey administration is the collection of personal information and sensitive data. It is important that community-based researchers review and agree to confidentiality protocols similar to those required for external researchers. Community members assisting with data collection for the Metlakatla Membership Census and the Musqueam Community were trained in confidentiality protocols and signed confidentiality agreements prior to partaking in any data collection. However, despite such confidentiality measures, it is possible that some participants may feel less comfortable sharing personal information around sensitive topics with known community members than they would with an external researcher who is perceived as an impartial third-party. Although the case studies where community members administered the survey found this method to be successful (the Ktunaxa Nation Census employed community-based researchers to

conduct in-person interviews and achieved a high response rate, and both the Musqueam and Metlakatla were successful in having community members going door-to-door to deliver and collect censuses), it may be the case that participants did not disclose that they felt uncomfortable having a community member collect their data. Having multiple methods of data collection can help to alleviate this issue. To reduce concern, it should be made clear to participants that in the case where individuals feel uncomfortable being interviewed by other community members, there are alternative options for the participant to complete the survey, such as self-administered via pen and paper or the option to fill the survey out online.

The logistics of having community members assist with survey administration can also present challenges. When community members are part of survey administration it is important that they are properly resourced and trained, and are available to commit fully to the work required during the data collection period. Having individuals help out with survey administration in addition to other part-time work or commitments can result in a less organized and efficient data collection phase and potentially lead to lower response rates. Planning details around survey personnel well in advance of the data collection phase and establishing a clear understanding of the responsibilities involved in this position can help to reduce logistical issues.

5.1.6. Data Collection Methods: Provide the Option for Multiple Methods, Do Not Rely Solely on Computer-Assisted Methods

This recommendation touches on two aspects of data collection methodology: 1) provide the option for multiple methods and 2) if a single method must be used, do not rely exclusively on computer-assisted methods.

The case studies show that relying on a single method for data collection is unadvisable. While picking a single mode of data collection can be tempting due to the consistency in responses, findings from the case studies suggest that multiple methods of data collection may be more effective for First Nation community surveys. The need for multiple data collection methods documented in the case studies is likely due to the broad range of demographics included in the target population. Surveys collecting information from a specific demographic group, such as youth or elders, may be well-suited to one mode of data collection, but First Nation surveys collecting information

from the entire membership will undoubtedly include a target population with varying literacy capabilities, computer-familiarity or comfort sharing personal information. The case studies demonstrated that using multiple methods of data collection can help to accommodate these differences and facilitate the survey in reaching a wider audience.

Ensuring participants feel comfortable when answering the survey questions was identified as an important aspect to take into account when deciding on data collection methodologies (Interview October 27, 2017). The Musqueam Census addressed this consideration by providing participants with different options for filling out the survey; some people felt most comfortable filling out a paper version of the survey on their own, others required assistance and filled out the survey with the help of a census taker, and others preferred filling the survey out privately online. A few individuals who were unable to use any of these methods, requested that the survey be mailed to them. Although using different modes can affect the way in which participants respond to questions and reduce the overall quality of the data (de Vaus, 2014), it can also improve the quality of the data if: 1) more individuals fill out the survey 2) participants provide more honest answers because they feel comfortable sharing information through the mode they have chosen. This is likely to be especially important when there are questions that solicit sensitive information.

Another aspect of data collection methodology that diverges somewhat between what is recommended in the literature and the methods used in the case studies is the use of computer-assisted methods. Survey research literature indicates that computer-assisted methods are replacing pen-and-paper methods at an increasing rate (De Leeuw et al., 2008), as they provide multiple benefits, including a faster and more efficient process, complex filtering and skip questions, piping and feedback, error checking, consistency checks, and enforcing answer requirements (de Vaus, 2014; Statistics Canada, 2010). Despite these benefits, computer-assisted methods should not be relied on exclusively for First Nation community surveys. The success of computer-assisted methods is noted to be highly dependent on respondents' proficiency with computers as well as their access to a computer in order to complete the survey (de Vaus, 2014). The case studies examined in this research suggest that First Nation communities do not necessarily represent a user group where computer-assisted methods will be highly successful. While some participants filled out the survey online, individuals that were given a choice of completing the survey on an iPad or tablet, or using a paper version,

paper format was strongly preferred. Computer-assisted methods can therefore be useful in providing an alternate method for filling out the survey that certain participants will benefit from but should not be the only method available for all respondents.

5.1.7. Timing of Data Collection Should Be Locally Relevant

Many First Nations members participate in various traditional activities where they are out on the land, sometimes for extended periods of time. Having a short survey window that falls within a single season increases the likelihood that a large demographic group will be excluded from the survey. Summer is an especially common time for people to be away on extended hunting, fishing or gathering trips (Castledon et al., 2012). As a result, survey administration is less likely to be successful if it occurs during the summer months when everyone is away (Interview December 16, 2017). However, many university researchers are only available in the summer months to collect data as they have commitments over the school term from September – April (Castledon et al., 2012). In many situations, academic calendars are largely unrelated to Indigenous community members and time constraints of external agencies can be a challenge for partnership research (Fletcher, 2003). Research with Indigenous partners should ensure that time frames are based on the needs and characteristics of the community in which the research is being conducted (LaVauex & Christopher, 2009).

Planning for First Nations community surveys must therefore take into account seasonal and local events, and work closely with the community to establish the timing of the various survey stages. A reasonable and locally relevant timetable should be worked out at the onset of the research project (Fletcher, 2003). The timing and length of the data collection phase should be scheduled appropriately so it does not occur within a period when a substantial portion of the membership is away. However, while it is important to ensure all members have the chance to complete the survey, extending the data collection period for too long also has drawbacks. If a survey is administered over many months, it no longer provides information relating to the specific issues at a particular point in time, making it difficult to establish baseline information, and track or measure progress. Thus, keeping the data collection window relatively short while still covering two locally relevant seasons may be a useful approach for First Nations community surveys. For example, this could be achieved by beginning the data collection towards the end of one season and extending it into early parts of the next

season. Ultimately, the timing should be based on the seasons for activities and cultural practices the First Nation engages in, rather than the defined calendar seasons. Ideal survey administration windows will be different for each First Nation, depending on their geographic location, the species present in the area, and the harvest activities they participate in.

5.1.8. Present Data Back to the Community in a Meaningful and Accessible Way

Methods for disseminating survey results back to the First Nation should be carefully considered to ensure they are timely, meaningful and relevant to the community. Disseminating the information collected in the survey reassures the community their voices have been heard and utilized (LaVeaux & Christopher, 2009). However, the research cycle typically has a large time gap between data collection and dissemination of results which can leave people wondering as to the status of the research project and the data collected (Fletcher, 2003). For some individuals, this may create associations with negative experiences of past research where results were never returned to the community (FNIGC, 2014). An effort should be made to ensure dissemination of results is done in a way that does not bring up these negative sentiments, and instead is used as a tool to generate positive opinions around the research collaboration and the survey by showing that the data are being used to benefit the community.

Dissemination of information should also be timely. Recognizing that in-depth analysis requires time, preliminary survey results can be presented to the community to help connect the data collection and dissemination phases and maintain interest in the survey. Results should be disseminated in a way that is meaningful to the intended audience. Survey results are often disseminated in a report format; however, this alone is not a sufficient dissemination strategy for First Nation surveys. Going beyond the standard reports and executive summaries, the researcher should consider innovative approaches based on the community's interests (Fletcher, 2003). Presenting the results through relevant community channels using a variety of media and formats will help to ensure all members can access them. If data are disseminated through talks or presentations, having a First Nations member or staff who worked on the survey present the data may help to reinforce the community focus of the survey. Proper dissemination

is particularly important for First Nation community surveys that are administered regularly. Community members are more likely to participate in future surveys if they see that the information collected through the survey is actually being used to make beneficial management decisions for the community.

The Ktunaxa Nation Census exemplifies how effective dissemination of results can have a strong influence on future surveys. The survey has been administered two times, first in 2010 and again in 2014. The first survey had a response rate of 10%, and the second iteration had a response rate of 98% (these percentages are calculated on the basis of a targeted sample size of 500). When administering the second iteration of the Ktunaxa Nation Census, the survey administrators provided participants with PDF packages containing visual representation of the results from the first iteration of the survey. These information packages helped show participants that the data were being used and how they were being used. The packages also demonstrated the need for more data, thereby bolstering the efforts to increase survey participation. This was considered by a Ktunaxa researcher to be one of the main reasons for the higher response rate observed in the second iteration (Interview December 16, 2017).

5.1.9. Support Community Control and Ownership Over the Data

The case studies stressed the importance of community ownership and control over the data collected through the surveys. Data governance is considered to be a critical component of decolonizing research methodologies and is further explored in the guiding principles of OCAP. The First Nations principles of OCAP are a "set of standards that establish how First Nations data should be collected, protected, used or shared" (FNIGC, 2018). They are considered the *de facto* standard for how to conduct research with First Nations and are an important foundation for any survey research that is conducted with or for First Nation communities. OCAP principles are made up of four components: Ownership, Control, Access and Possession (FNIGC, 2014). Ownership refers to the relationship of First Nations to their cultural knowledge, data and information. Under this principle, a community or group is given collective ownership of information in the same way an individual owns his or her personal information (FNIGC, 2014). Control refers to the rights of First Nations and their communities to assert control over all aspects of research and information that impact them, including all stages of a research project, the review process as well as the management of information. The

Access principle affirms that First Nations should have access to information and data about their community and its members regardless of where it is held (FNIGC, 2014). In addition, First Nations communities have the right to manage and make decisions regarding access to their collective information. Possession involves the physical control of data, and thus asserts and protects the principle of ownership (FNIGC, 2014). The First Nations right to own, control, access and possess information about their peoples is fundamental to self-determination and the preservation of culture (FNIGC, 2014).

Being First Nation driven, OCAP principles are one of the most important sets of principles for external researchers to follow when conducting any research involving First Nations. Ultimately, OCAP should lead to more open-minded and flexible research plans and provide a "way to participate in a First Nations created environment that promotes the pursuit of beneficial research and its ethical application" (FNC, 2007 p. 4). To be effective, OCAP needs to be understood in the context of a specific First Nation, and include consideration of the governance structures, values, history and expectations (FNIGC, 2014). Each First Nation may interpret the principles of OCAP differently, reflecting a community's right to make its own decisions around how information is collected, used or shared (FNIGC, 2014). For external researchers, incorporating the principles of OCAP can sometimes be challenging as it may require changes to accustomed ways of doing research (FNC, 2007). Yet to successfully carry out research with First Nations, external researchers must accept and engage with conflicting world views, carefully consider community research protocols which may be different from their own and take the time to build relationships based on trust (FNC, 2007).

Table 4. Guidelines for First Nations Community Surveys.

Recommendation	Rationale
Develop effective working relationships and trust by spending time in the community	By spending time in the community, researchers may engage with the community more effectively and develop relationships and trust that allow for more open communication and honest feedback about survey methodologies
Use census surveys where applicable	Many First Nation communities have a relatively small and geographically contained population, making a census feasible Censuses allow for the development of benchmark data and accurate survey frames
Prioritize community capacity building	Indigenous control over the collection of data from Indigenous peoples is a priority. To provide lasting benefit, external researchers partnering with First Nations should work closely with and help train community members in the skills needed for the community to take the lead on future surveys

Recommendation	Rationale
Ensure questions are community specific	Many previously existing survey questions have been developed in a non-Indigenous context. Questions for First Nation surveys collecting community specific data must reflect the unique interests and needs of the community Questions that have been modified or developed to be community specific are more likely to improve response rates and generate a positive perception of the survey
Include community members in pre-testing	Having community members involved in pre-testing of survey questions and piloting the survey helps to catch errors that would otherwise be missed by external experts
Ensure community members are part of survey administration	Having community members assist with, or carry out, survey administration improves response rates and helps to establish a sense of trust in the project Involving community members in survey administration helps to build capacity
Provide the option for multiple data collection methods	Having multiple methods will provide the greatest likelihood of all members feeling comfortable filling out the survey
Do Not Rely on Computer Assisted Methods Exclusively	Computer-assisted methods can be beneficial in reaching certain demographic groups, but if only one data collection method is used for a First Nations community survey, computer-assisted methods should not be relied on exclusively as they are unlikely to be successful among all members of a First Nation community
Tailor timing of data collection with regard to community activities	Many First Nation community members are away or out on traditional lands during summer Data collection should be planned around local events and common harvesting windows so that the survey is not administered while many people are away
Present data back to the community in a meaningful and accessible way	Data dissemination should be presented through relevant community channels using a variety of formats to ensure survey results are useful to all user groups
Support community control and ownership over the data	First Nations right to own and control data collected through the survey is a necessary component of self-government

5.2. Applicability of Guidelines Outside of First Nations Communities

The considerations and guidelines presented at the start of this chapter provide strategies for survey research in First Nations communities, and as such, may also be useful for survey research in small communities more generally. Some considerations, such as using censuses, providing the option for multiple methods of data collection and

disseminating results back to the community in a meaningful and accessible way, are also applicable to surveys for small, non-Indigenous communities. However, many of considerations have been developed specifically in the First Nations context, and because of their unique history, culture and governance structures, they may be less applicable to non-Indigenous communities. For example, non-Indigenous communities do not pursue data governance in the same way that First Nations governments do. Similarly, tailoring timing of data collection with regard to community activities is especially relevant to First Nations because of the traditional harvests and other cultural activities that many members participate in. In addition, the emphasis on involving community members in data collection is in part due to past misconduct of research in Indigenous communities that has led of a general sense of wariness around, and distrust of, external researchers. Thus, while small communities have some similar characteristics that lend themselves well to certain survey strategies, the guidelines identified in this research have been developed from examples of First Nations surveys and incorporate both obvious and more nuanced components that reflect the unique characteristics of First Nations communities.

5.3. Limitations and Further Research

There are several limitations to this research. One important limitation stems from the context in which this research was written: I am a Caucasian graduate student with no Indigenous heritage. Although my research has begun to address an important gap in the literature, this research topic can only be fully addressed through further work and dialogue among Indigenous researchers.

Other limitations of this research are primarily related to the limited number of case studies of First Nations community surveys and the level of information available for each. There are other examples of First Nations community surveys that were not included in this research because no information about the survey was publically available online, and survey administrators could not be reached for interviews. For the First Nations community surveys included in this research, the level and detail of information that I was able to obtain for each of the case studies varied. Some First Nations shared fewer details about methodologies of their community surveys and this protection of information is understandable. First Nations community surveys, especially those that are internally driven, represent private work carried out by the First Nation.

These surveys can address sensitive topics and may use methods or processes of data collection that are based on traditional knowledge or culture, and as a result are not meant to be shared widely.

Additional case studies would be needed to more thoroughly analyse and evaluate the survey methods used. This research provides a review of some methods used in First Nations community surveys to date. From these, I was able to highlight common themes and effective practices, but without more case studies it is difficult to confirm whether the common themes identified here are indeed widespread and effective. Another limitation of this research is that it did not include an evaluation of the surveys against a specific set of criteria defining success. Future work would benefit from further research into criteria that can be used to evaluate surveys that would allow for a more standardized comparison and a determination of an overall rating with which to compare and rank the success of different surveys.

Another area for future work is to examine research methods of different Indigenous groups in Canada. This research is focused on methodologies for First Nations surveys, and all the case studies were in BC. To fully address the dearth of data that exists for Indigenous people in Canada, future research should also focus on survey research methods for Metis and Inuit populations, and for First Nations in other settings in Canada. Although some of the considerations identified in this research may be transferable among Indigenous groups, the distinct culture, histories and interests of First Nations, Metis and Inuit necessitate that such methods be contextual.

Many of the First Nations community surveys looked at in this research are in the early stages of establishing community data; the surveys I looked at tended to have completed only their first or second iteration. Future research may be able to benefit from not only evaluating methods of First Nations surveys for different communities, but also from testing and adapting methods within a community. For example, surveys administered on a regular basis, such as the Ktunaxa Nation Census, Musqueam Community Census and Metlakatla Membership Census, provide important data that can be used to analyse methods for a survey between years. Evaluating the changes to methodologies of a survey between years can help to more accurately identify factors that influence the success of a survey. Conducting intra-community analysis in addition to inter-community analysis of First Nations surveys can help reduce a pan-

Indigenisation of methods. Highlighting strengths and weaknesses that are unique to each community, while also evaluating surveys at a larger level, allows different First Nations to benefit from the body of practical knowledge gained from past survey work in other communities.

5.4. Conclusions

The scarcity of Indigenous data and the approaches First Nations in BC have used to address this problem are important pieces in the larger context of reconciliation and advancement of Indigenous self-government. Almost ten years after the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) was adopted by resolution of the United Nations General Assembly, the Government of Canada affirmed full support, without qualification, of UNDRIP (INAC, 2017). Article 3 of the declaration asserts that Indigenous peoples right to self-determination is their right to determine their political status and to pursue freely their economic, social and cultural development (UNDRIP, 2008). This right "necessarily includes their right to have data and information collected, by them or jointly with them, that reflect their past and present realities and provide the basis for their pursuit of self-determined economic, social and cultural development" (Kukutai & Taylor, 2016 p. xxii). The need for these data to be collected by or jointly with Indigenous peoples was also highlighted in the UN Forum on Indigenous Issues which stressed that Indigenous people must be actively involved in data gathering and research (Bishop, 2016).

Within this context, my research documents a way in which First Nations have begun to collect and govern data specific to their communities: community census programs or other surveys. Two general approaches to collecting community specific data through surveys were explored in this research: 1) surveys that were undertaken by the community and were completely internal and 2) surveys that were initiated by the community but carried out through partnerships with external agencies. As such, these case studies provide important examples of data being collected by Indigenous people as well as jointly by Indigenous peoples with the aid of external researchers. Although the ultimate goal is for Indigenous research to be entirely led by Indigenous people, not all Indigenous communities currently possess the necessary resources, technical infrastructure, time or skills to carry out a comprehensive community survey. In these cases, acquiring the right research expertise while maintaining control over the survey

also helps to advance data sovereignty. Individuals from external agencies working with First Nations to design and administer a community survey must consider two fundamental objectives of their work: designing a good quality survey and approaching the research in a way that is ethical and respectful. These objectives are necessarily intertwined as a survey for a First Nations can only be of good quality by incorporating a respectful research approach.

This research suggests that survey methodology guidelines from the literature cannot be directly applied to a First Nation community survey without regard for the differences among Indigenous and non-Indigenous populations, as well as the unique characteristics of the First Nation the survey is intended for. Guidelines from the literature need to be refined based on First Nations values and context to ensure they are appropriate for First Nation communities. Although the results from the case studies demonstrate that some key differences exist between the methods from the literature and those used for First Nation surveys, what was identified to be even more important was the specific ways and special nature of how the recommendations were applied in the First Nations context to address the needs, interest and values of the community.

The common themes and important considerations discussed earlier in this chapter reveal that most beneficial practices often have more to do with the way the recommendations from the literature are implemented than the nature of the recommendation itself. These nuanced differences in context and application are vital to ensuring the success of First Nation community surveys. For example, the literature suggests a survey team is a beneficial approach to deliver a survey. The case studies demonstrated that it is the make-up of the survey team that is important for First Nation surveys; hiring community research assistants for survey administration was a critical element of success in each of the case studies. Similarly, dissemination of results, usually through a report, is recognized as an important step in the survey. However, it was the particulars of how the results were disseminated that was most important to First Nation community surveys; presenting results at the AGM or handing out visualizations of the data to participants for future iterations of the survey were examples of how data from First Nation surveys could be effectively disseminated back to the community. Other requirements such as ensuring locally relevant timelines or testing questions and piloting the survey with community members represent specific approaches that are not identified in the literature. While such considerations may seem

obvious, without prior experience working for a First Nation researchers may rely heavily on what is available in the general survey methodology literature, unaware of the special nature of the methods that are necessary for First Nation community surveys to be successful.

Drawson and Toombs (2017) suggest that processes of adapting methods in order to meet the needs of Indigenous communities are critical to producing revised methods that better incorporate Indigenous values and ways of knowing and facilitate research that is respectful and culturally relevant. The considerations presented in this research provide some insight into how to adapt the recommendations in the literature to make the survey more appropriate for a First Nations community. However, the methods used for the design and administration of a First Nation community survey must ultimately be guided and approved by the First Nation in which the survey is conducted. The application of the considerations presented in Chapter 5 is for the community to determine. It is my hope that the information provided in this research about how other First Nation community surveys were designed and administered and what made them successful will provide an important foundation of knowledge that researchers can build on and adapt for future First Nation community surveys.

References

Australian Bureau of Statistics (ABS). (2013). Statistical Language – Census and Sample. Retrieved from http://www.abs.gov.au/websitedbs/a3121120.nsf/home/statistical+language+-+census+and+sample

Bruce, D., Doyle-Bedwell, P., & An-Jager, K. (2010). Baseline Data for Aboriginal Economic Development: An Informed Approach for Measuring Progress and Success. The Atlantic Policy Congress of First Nations Chiefs Secretariat.

Babbie, E., & Benaquisto, L. (2014). *Fundamentals of Social Research* (3rd ed.). Toronto: Nelson.

Baird, J., Carter, B., Plummer, R., & Varewyck, A. (2013). Gaining Insights About Water: The Value of Surveys in First Nations Communities to Inform Water Governance. *Indigenous Policy Journal*, 4, 1–18.

Baker, D. C., & Mclelland, J. N. (2003). Evaluating the Effectiveness of British Columbia's Environmental Assessment Process for First Nations' Participation in Mining Development, *Environmental Impact Assessment Review 23*, 581–603. http://doi.org/10.1016/S0195-9255(03)00093-3

Ball, J., & Janyst, P. (2008). Enacting Research Ethics in Partnerships with Indigenous Communities in Canada: "Do it in a Good Way." *Journal of Empirical Research on Human Research Ethics*, 3(2), 33–51. http://doi.org/10.1525/jer.2008.3.2.33

Battiste, M. (2008). Research Ethics for Protecting Indigenous Knowledge and Heritage: Institutional and Researcher Responsibilities. In N. Denzin, Y. Lincoln, & L. Smith, *Handbook of Critical and Indigenous Methodologies* (pp. 497–510). United States: SAGE Publications, Inc.

Bishop, D. (2016). Indigenous Peoples and the Official Statistics System in Aotearoa/New Zealand. In Kukutai, T., & Taylor, J. (Eds.) *Indigenous Data Sovereignty: Toward an agenda* (pp 291-306) Acton ACT, Australia: ANU Press.

Bingham, B. (2013). Aboriginal Community-Based Primary Health Care Research: Developing Community Driven Primary Health Care Research Priorities. Retrieved from: https://www.fraserhealth.ca/media/Aboriginal_Health_Primary_Health_Care_Research.pdf

British Columbia First Nations Data Governance Initiative (BCFNDGI). (2015). Indigenous Information Governance - Regional First Nations Information Governance Center Concept Paper. Retrieved from http://www.bcfndgi.com/data-governance/

Canadian Council on Learning (CCL). (2007). *Redefining How Success is Measured First Nations, Inuit and Metis Learning.* Retrieved from https://www.afn.ca/uploads/files/education/5._2007_redefining_how_success_is_ measured_en.pdf

Castleden, H., Morgan, V. S., & Lamb, C. (2012). "I spent the first year drinking tea": Exploring Canadian university researchers' perspectives on community-based participatory research involving Indigenous peoples. *Canadian Geographer*, *56*(2), 160–179. http://doi.org/10.1111/j.1541-0064.2012.00432.x

Check, J. W., & Schutt, R. K. (2012). *Research Methods in Education*. California: Sage.

Cloutier, E., & Langlet, É. (2014). Aboriginal Peoples Survey, 2012: Concepts and Methods Guide. *Statistics Canada, Social and Aboriginal Statistics Division.* Retrieved from: http://www.statcan.gc.ca/pub/89-653-x/89-653-x2013002-eng.pdf

Compass Resource Management Ltd. (2015a). *Metlakatla Cumulative Effects Management Project: Phase 1 Summary Report and Phase 2 Implementation Plan.* Unpublished Report prepared for Metlakatla First Nation.

Compass Resource Management Ltd. (2015b). *Metlakatla Community Survey Proposal.* Unpublished Report. Vancouver, BC.

Dawson, A., Toombs, E., & Mushquash, C. (2017). Indigenous Research Methods: A Systematic Review. *International Indigenous Policy Journal*, *8*(2). http://doi.org/10.18584/iipj.2017.8.2.5

Deutskens, E., Ruyter, K. De, Wetzels, M., Oosterveld, P., & Deutskens, E. (2014). Response Rate and Response Quality of Surveys; An Experimental Study. *Marketing Letters, 15*(1), 21–36. http://doi.org/10.1023/B:MARK.0000021968.86465.00

De Leeuw, Hox, J. J., Dillman, D. A. (2008). *International Handbook of Survey Methodology.* New York: European Association of Methodology.

De Vaus, D. A (2014). *Surveys in Social Research* (6th ed.). London: George, Allen & Unwin.

Dillman, D.A. (2007). *Mail and Internet Surveys: The Tailored Design Method* (2nd ed.)*. New York: Wiley.

Dillman, D. A., Smyth, J. D., Christian, L. M. (2014). *Internet, Phone, Mail and Mixed-Mode Surveys: The Tailored Design Method* (4th ed.). Hoboken, NJ: Wiley.

Fan, W., & Yan, Z. (2010). Factors affecting response rates of the web survey: A systematic review. *Computers in Human Behavior*, *26,* 132-139. http://doi.org/10.1016/j.chb.2009.10.015

First Nations Centre (FNC). (2007). OCAP: Ownership, Control, Access and Possession. Sanctioned by the First Nations Information Governance Committee*, Assembly of First Nations. Retrieved from http://cahr.uvic.ca/nearbc/documents/2009/FNC-OCAP.pdf

First Nations Information Governance Centre (FNIGC). (2014). Ownership, control, access and possession (OCAP^{TM}): The path to First Nations information governance. Retrieved from http://fnigc.ca/sites/default/files/docs/ocap_path_to_fn_information_governance_ en_final.pdf

First Nations Information Governance Centre (FNIGC). (2012). First nations regional health survey (RHS) 2008/10: national report on adults, youth and children living in First Nations communities. Retrieved from http://fnigc.ca/sites/default/files/docs/first_nations_regional_health_survey_rhs_2 008-10_-_national_report.pdf

First Nations Information Governance Centre (FNIGC). (2011). First Nations Regional Health Survey (RHS) Best Practice Tools for OCAP Compliant Research. Retrieved from http://fnigc.ca/sites/default/files/RHSBestPracticeBooklet.pdf

First Nations Information Governance Centre (FNIGC). (2015). Introducing the 2015 First Nations Community Survey. Retrieved from http://fnigc.ca/news/introducing-2015-first-nations-community-survey.html

First Nations Information Governance Centre (FNIGC). (2016). The National Report of the First Nations Regional Early Childhood, Education and Employment Survey. Retrieved from http://fnigc.ca/sites/default/files/docs/fnigc_fnreees_national_report_2016_en_fin al.pdf

Fletcher, C. (2003). Community-Based Participatory Research Relationships with Aboriginal Communities in Canada: An Overview of Context and Process. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health 1*(1), 27-62

Floyd, J., & Fowler. Jr. (2009). *Survey Research Methods* (4th ed.). London: Sage.

Gajic, A., Cameron, D., & Hurley, J. (2012). The cost-effectiveness of cash versus lottery incentives for a web-based, stated-preference community survey. *European Journal of Health Economics*, *13*(6), 789–799. http://doi.org/10.1007/s10198-011-0332-0

Gionet, L., & Roshanafshar, S. (2013). Select Health Indicators of First Nations People Living Off Reserve, Metis and Inuit. Retrieved from http://www.statcan.gc.ca/pub/82-624-x/2013001/article/11763-eng.pdf

Glasow, P, A. (2005). Fundamentals of Survey Research Methodology. Retrieved from https://www.mitre.org/sites/default/files/pdf/05_0638.pdf

Gonzalez, J. M., & Eltinge, J. L. (2010). Optimal Survey Design: A Review. *Proceedings of the Section on Survey Research Methods, American Statistical Association*, (October), 4970–4983.

Government of Canada. (2018). Principles respecting the Government of Canada's relationship with Indigenous peoples. Retrieved from http://www.justice.gc.ca/eng/csj-sjc/principles-principes.html

Gray, G., & Guppy, N. (2003). *Successful surveys: Research methods and practice* (3rd ed.). Toronto: Nelson

Gupta, T. (2017). *Collecting Baseline Socio-Economic Data for Socio-Economic Impact Assessment: The Metlakatla Membership Census*. Simon Fraser University. Retrieved from: http://rem-main.rem.sfu.ca/theses/GuptaTanishka_2017_MRM682.pdf

Gupta, T. & Willis, C. (2016). Metlakatla Membership Census: Design and Administration *Report.* Unpublished report for the Metlakatla First Nation.

Harding, A., Harper, B., Stone, D., O'Neill, C., Berger, P., Harris, S., & Donatuto, J. (2012). Conducting research with tribal communities: Sovereignty, ethics, and data-sharing issues. *Environmental Health Perspectives*, *120*(1), 6–10. http://doi.org/10.1289/ehp.1103904

Indigenous and Northern Affairs Canada (INAC). (2017). Metlakatla First Nation: Registered population. Government of Canada. Retrieved from http://www.aadnc-aandc.gc.ca/eng/1357840941754/1360159962415

Indigenous and Northern Affairs Canada (INAC). (2017). United Nations Declaration on the Rights of Indigenous Peoples. Retrieved from https://www.aadnc-aandc.gc.ca/eng/1309374407406/1309374458958

Isaac, S., & Michael, W.B. (1997). Handbook in research and evaluation: A collection of principles, methods, and strategies useful in the planning, design and evaluation of studies in education and the behavioural sciences (3rd ed.). San Diego: Educational and Industrial Testing Services.

Jelfs, P. The Australian Bureau of Statistics' Aboriginal and Torres Straight Islander Enumeration and Engagement Strategies: Challenges and Future Options. In Kukutai, T., & Taylor, J. (Eds.) *Indigenous Data Sovereignty: Toward an agenda* (pp 275-290) Acton ACT, Australia: ANU Press.

Kays, K., Gathercoal, K., & Buhrow, W. (2012). Does survey format influence self-disclosure on sensitive question items? *Computers in Human Behavior*, *28*(1), 251–256. http://doi.org/10.1016/j.chb.2011.09.007

Kelley, K., Clark, B., Brown, V., & Sitzia, J. (2003). Good practice in the conduct and reporting of survey research. *International Journal for Quality in Health Care*, *15*(3), 261–266. http://doi.org/10.1093/intqhc/mzg031

Koster, R., Baccar, K., & Lemelin, R. H. (2012). Moving from research ON, to research with and for Indigenous communities: A critical reflection on community-based participatory research. *Canadian Geographer*, *56*(2), 195–210. http://doi.org/10.1111/j.1541-0064.2012.00428.x

Ktunaxa Nation. (2018). *Who We Are*. Retrieved from: http://www.ktunaxa.org/who-we-are/

Kukutai, T., & Taylor, J. (Eds.). (2016). *Indigenous Data Sovereignty: Toward an agenda*. Acton ACT, Australia: ANU Press.

Kwon, K., & Roberts, M. (2017). Cumulative Effects Management (CEM) Program Research: Early Results. Unpublished document for the Metlakatla First Nation

Lavallee, L. F. (2009). Practical Application of an Indigenous Research Framework and Two Qualitative Indigenous Research Methods: Sharing Circles and Anishnaabe Symbol-Based Reflection. *International Journal of Qualitative Methods 8*(10), 21–40. http://doi.org/QH 11.0080

LaVeaux, D., & Christopher, S. (2009). Contextualizing CBPR: Key Principles of CBPR meet the Indigenous research context. *Pimatisiwin*: *A Journal of Aboriginal & Indigenous Community Health 7*(1), 1-25. http://doi.org/10.1016/j.biotechadv.2011.08.021.Secreted

Marsden, P.V., & Wright, J.D. (2010). *Handbook of Survey Research* (2nd ed.)*. Bradford, UK: Emerald Group Publishing.

McGregor, D., Bahya, W., & Simmons, D. 2010. "Our responsibility to keep the land alive": Voices of northern Indigenous researchers. *Pimatisiwin: A Journal of Aboriginal & Indigenous Community Health 8*(1), 101 -123.

Menzies, C., R. (2001). Reflections on Research With, for, and Among Indigenous Peoples. *Canadian Journal of Native Education*, *25*(1), 19–36.

Menzies, C., R. (2004). Putting Words into Action: Negotiating Collaborative Research in Gitxaala. *Canadian Journal of Native Education*, *64*(1), 15–32.

Mi'kmaw Ethics Watch. (2018). Mi'kmaw Research Principles and Protocols. Retrieved from https://www.cbu.ca/indigenous-affairs/unamaki-college/mikmaq-ethics-watch/

Moore, C., Castleden, H. E., Tirone, S., & Martin, D. (2017). Implementing the Tri-Council Policy on Ethical Research Involving Indigenous Peoples in Canada: So, How's that Going in Mi'kma'ki? *International Indigenous Policy Journal*, *8*(2).

Musqueam First Nation. (2017). Monitoring and Evaluation Report 2016. Unpublished Report.

Nardi, P. M. (2003). *Doing survey research: A guide to quantitative methods*. Boston: Allyn and Bacon.

O'Neil, J., Elias, B., & Wastesicoot, J. (2005). Building a health research relationship between first nations and the university in Manitoba. *Canadian Journal of Public Health, 96*, 9-12.

Ontario Human Rights Commission (OHRC). (2010). Count me in! Collecting Human Rights-based Data. Retrieved from http://www.ohrc.on.ca/en/count-me-collecting-human-rights-based-data

Parker, S. (2011). Sampling Versus Census: A Comparative Analysis. *TNS Employee Insights.* Retrieved from http://tnsemployeeinsights.com/images/stories/tns/pdfs/TNS_2147-11AR_SamplingVSCensus.pdf

Pinsonneault, A., & Kraemer, K. L. (1993). Survey research methodology in management information systems: An assessment. *Journal of Management Information Systems*, *10*, 75-105.

Plate, E., Foy, M., & Krehbiel, R. (2009). Best practices for First Nation involvement in environmental assessment reviews of development projects in British Columbia, 125. Retrieved from http://fnbc.info/sites/default/files/documents/First Nations Environmental Assessment Best Practices Report_1.pdf

Rodriguez-Lonebear, D. (2016). Building a data revolution in Indian country. In Kukutai, T., & Taylor, J. (Eds.) *Indigenous Data Sovereignty: Toward an agenda* (pp 253-272) Acton ACT, Australia: ANU Press.

Schnarch, B. (2004). Ownership, Control, Access and Possession (OCAP) or Determination Applied to Research. *Journal of Aboriginal Health, 1*(1), 80–95.

Schonlau, M., Fricker, R., & Elliott, M. (2002). *Conducting Research Surveys via E-mail and the Web*. Santa Monica, California: RAND Corporation.

Schultz, J. L., & Rainie, S., C. (2014). Strategic Power of Data: A Key Aspect of Sovereignty. *International Indigenous Policy Journal,* 5(4).

Sinclair, M., Otoole, J., Malawaraarachchi, M., & Leder, K. (2012). Comparison of response rates and cost-effectiveness for a community-based survey: Postal, internet and telephone modes with generic or personalised recruitment approaches. *BMC Medical Research Methodology*, *12*, 1–8. http://doi.org/10.1186/1471-2288-12-132

Singer, E. (2012). The Use of Incentives to Reduce Nonresponse in Household Surveys. In Groves, R. M, Dillman, D. A., Eltinge, J.L., Little, R.J.A (Eds.), Survey *Nonresponse Survey* (pp.163-177)*.* New York: Wiley.

Singer, E., & Ye, C. (2013). The Use and Effects of Incentives in Surveys. *The ANNALS of the American Academy of Political and Social Science*, *645*(1), 112–141. http://doi.org/10.1177/0002716212458082

Stairs, A., & Bernhardt, J. (2002). Considerations for evaluating good care in Canadian Aboriginal early childhood settings. *McGill Journal of Education* 37(3): 309–330.

Statistics Canada. (2007). Aboriginal Children's Survey (ACS). Retrieved from http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=5108

Statistics Canada. (2010). Survey Methods and Practices. Retrieved from http://publications.gc.ca/collections/collection_2010/statcan/12-587-X/12-587-x2003001-eng.pdf

Statistics Canada. (2016). Canadian Community Health Survey – Annual Component (CCHS*)*. Retrieved from http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3226

Statistics Canada. (2017). Census of Population. Retrieved from http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=3901

Steffler, J. (2016). The Indigenous Data Landscape in Canada: An Overview. *Aboriginal Policy Studies*, *5*(2), 149–164. http://doi.org/10.5663/aps.v5i2.26992

Takasaki, A. A. K. (2014). *Environment, development, trust, and well-being in the Tsawwassen First Nation*. University of British Columbia. Retrieved from https://open.library.ubc.ca/cIRcle/collections/24/items/1.0165848

Thayer-Hart, N., Dykema, J., Elver, K., Schaeffer, N. C., & Stevenson, J. (2010). Survey Fundamentals. *Office of Quality Improvement*. Retrieved from http://oqi.wisc.edu/resourcelibrary/uploads/resources/Survey_Guide.pdf

Tourangeau, R., & Yan, T. (2007). Sensitive Questions in Surveys. *Psychological Bulletin*, *133*(5), 859–883. http://doi.org/10.1037/0033-2909.133.5.859

Truth and Reconciliation Commission of Canada. (2015). Truth and Reconciliation Commission of Canada: Calls to Action. Retrieved from: http://www.trc.ca/websites/trcinstitution/File/2015/Findings/Calls_to_Action_Engli sh2.pdf

Tsawwassen First Nation (2018a). Our Treaty. Retrieved from http://tsawwassenfirstnation.com/general-info/treaty/

Tsawwassen First Nation (2018b). TFN Vision and Mandate. Retrieved from http://tsawwassenfirstnation.com/general-info/tfn-vision-mandate/

Udofia, A., Noble, B., & Poelzer, G. (2015). Community engagement in environmental assessment for resource development: benefits, enduring concerns, opportunities for improvement. *The Northern Review*, *39*(2015), 98–110.

United Nations. (2008). United Nations Declaration on the Rights of Indigenous Peoples. Retrieved from: http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

Viswanathan, M., Ammerman, A., Eng, E., Gartlehner, G., Lohr, K., Griffith, D., et al. (2004). Community-based Participatory Research: Assessing the Evidence. Summary, Evidence Report/Technology Assessment No. 99. AHRQ Publication 04-E0222. Rockville, MD: Agency for Healthcare Research and Quality

Appendix A.

Metlakatla Membership Census Methods

Survey Details	2015	2016	2017
Survey Background			
Purpose/ objectives of survey	Census was developed as part of the MFN CEM, developed to gather baseline socioeconomic data, specific to Metlakatla community		
One-time survey or regularly administered	Administered annually		
Length of time to develop survey	5 months	Used 2015 survey instrument	Used 2016 survey instrument
Length of time for survey administration	5 weeks	3 weeks	4 weeks
Length of time for analysis of survey results	Preliminary: 1.5 months In depth analysis – 4 months	Preliminary: 1.5 months In depth: 9 months	Preliminary: 1.5 months In depth: 9 months
Size of survey population	327		
Geographic distribution	Survey population Metlakatla Traditional territory – all of the population lived in the prince Rupert region and surrounding municipalities		
Proportion of target population living on-reserve	About 15%		
Survey Design Components			
Survey Administration Structure			
Who initiated survey	The need for a survey arose out of the CEM program, a collaboration between the MFN, SFU and Compass Resource Management. Compass resource management suggested a community survey to address the needs of the CEM program		
Who was the survey process managed by	Mostly SFU researchers with input and help from community members	Combination of SFU researchers and community members	Mostly community members with help from SFU researcher.
How well did this management structure work (On a scale of 1 – 10)	9 – Very effective to have external researcher familiar with survey methods paired with community member that knew the community very well	8 – Team of SFU researchers, Metlakatla survey administrators and Metlakatla managers worked well together, but it required a lot of coordination and	No rating

Survey Details	2015	2016	2017
		organization	
Sample Design	Census survey		
Target population	All Metlakatla members over the age of 15 living within the Metlakatla Traditional Territory		
Survey frame	Membership list provided by Communications department		
Data collection methodology	Multiple self-administered modes: - Paper versions - iPads - Online platform	Multiple self-administered modes: - Paper versions - Online platform	Multiple self-administered modes: - Paper versions - iPads - Online platform
Question development			
Were questions from existing surveys and/or new questions created	Combination of both		
What proportion were new questions developed for this survey	Approximately one quarter		
Names of other surveys questions were pulled from	- Regional Heath Survey - Aboriginal Peoples Survey 2012 - National Household Survey - Canadian Community Health survey - Calgary Citizen Satisfaction Survey - City of Edmonton community perception and satisfaction survey - Stellat'en First Nation Membership Survey - Curve Lake First Nation Election Survey		
Did all respondents fill out the same questionnaire or were there different versions	2 versions of the survey, adult version and a youth version for anyone under the age of 18)	1 survey (for questions that did not apply to youth there was a note that said no to answer if under 18	
Number of questions	Adult version: 54 Youth Version: 31	41	43
Survey pre-testing			
Were surveys questions pre-tested	Yes	Yes	Yes
How were survey questions pre tested	Survey questions were texted multiple times by external researchers and Metlakatla department managers in staff	Survey questions were only tested by census takers	New questions that were added were tested on staff and community members
Was the survey pilot tested	Yes	No	No
How many people completed the pilot test	25-30	N/A	N/A

Survey Details	2015	2016	2017
Were those completing the pilot test part of the population being surveyed	Yes – about half	N/A	N/A
Incentives			
Were incentives used	Yes		
Type of incentives were used	Prize draws - iPads (6) - $100.000 gift cards (5) - 'Thank you packages' to elders	Prize draws - 500$ gift card (1) - $100 gift cards (5) were awarded throughout the process to encourage participation (had early bird draw the end of the 2nd week, 3rd week, - 'Thank you packages' to everyone	
Importance of incentives (Scale of 1-10)	7	7	
Communication Strategy			
How was survey advertised and promoted in the community	Survey promotion led by Communications Department - sent emails and posted Facebook - video where the chief talked about importance of the census and encourage	Survey promotion led by Communications Department -sent emails and posted to Facebook - put up posters in community - shared information about the survey in newsletter	
Was the Chief/Band office involved in promoting the survey	Yes	No	
Implementation			
How were respondents contacted	Phone and email		
How many follow up requests were made	Many, depended on individual		
How were these follow-up requests scheduled	Depended on individual members, typically would follow up within a couple of days, but if they required more time would follow up in a week		
How was consent gained	Consent letter and confidentiality statement was provided to all participants to review before completing the census. Participants consented by completing the survey		
Community consent and/or individual consent	Specifically only asked for individual consent, because the survey was community driven it had community consent		
How was confidentiality and protection of data ensured	Confidentiality maintained because census was self-administered, put census in a sealed envelope and gave it to researchers directly, as soon as raw date was entered into spreadsheet, personal identifies		

Survey Details	2015	2016	2017
	were removed and census was coded. Data was stored on secure survey at SFU		
How were participants informed of data confidentiality and protection measures	Verbally communicated confidentiality measures, also included in consent letter		
What was the average time it took for respondents to fill out the survey	45 minutes	25 minutes	30 minutes
Time of year data collection occurred (month)	August- September	August	August
Survey Outcomes			
Response rate	66%	69%	38%
How many people asked to complete the survey	309	321	325
Total number of completed surveys	204	222	124
How were survey results disseminated/communicated	Preliminary results presented at AGM by SFU researchers disseminated through a presentation to the membership in their AGM. More in-depth results provided through to Chief and Council and department managers		
Utilization of survey data			
What individuals, groups or organizations made use of the data	Data use by Metlakatla managers and staff		
How were survey data used	Data used for next steps of the CEM program, developing management triggers. Data used for other internal needs, such as Landcode and training programs. Some data has been used externally to inform Environmental Assessments		
What, if any, were the specific outcomes that were a result of survey data	- Used for AURORA housing data - core housing info sent to Nexon - data is also been used in helping coastal training center (which offers training offered for members to get certifications and jobs) - targeting training programs - from the survey it was discovered that a barrier to employment was not having a driving license – now the coastal training program is offering driving courses - data helps to confirm they are on the right path and addressing the causes of unemployed		
How useful have the survey results been in community planning and decision making	Very useful		
Who had ownership and control over the survey results	Metlakatla First Nation		

Survey Details	2015	2016	2017
Was there an evaluation of the survey method and management after completion of the survey	Yes, survey researchers talked about lessons learned and improvements post completion of the survey	No	Yes, held a discussion with council and staff to discusses potential improvements for future iterations
Were initial goals of the survey achieved (*Scale from 1-10)*	Yes (9/10). The goal of the census was to collect data that the community didn't have at all and the census achieved that.		
Survey strengths	- Developing a database of community-specific data - Provides an opportunity to engage with community every year - Partnership between researchers and community resulted in a robust administration methodology - Community members as part of survey administration - Effective incentives - Well-advertised through various means - Census has been well received by the community, and has provided a venue for Metlakatla members feel like they are contributing important information to the community		
Survey weaknesses	- Too long - Some questions difficult to understand questions needed - Summer data collection was not ideal, many away on traditional lands harvesting foods	- Still too long - Time and resource intensive, both in terms of human and financial resources	- Survey timing - Survey fatigue - Concerns around confidentiality - Less structure for survey administration teams
Lessons learned	- paper based methods with personal drop-offs and pick-ups are preferred - reduce length of the census - have two census testing workshops simplify language - hand out 'thank you packages' to all participants		- organize the contract list and door-to-door scheduling by family, not areas - timing is important, and August is not the best time to administer the survey - have community members more involved in survey promotion (e.g. posting to internal social media groups) - keep revising questionnaire with people that are part of the community
Did the survey build capacity within the community	Yes. The survey has built capacity in two major ways: working with community members to administer the survey helped to develop the data collection skillsets within the community, and the data collected		

Survey Details	2015	2016	2017
	through the survey provides valuable information for the CEM program and for more-informed decision making around community programs and initiatives		

Appendix B.

Ktunaxa Census Methods

Survey Background	
Purpose/ objectives of survey	To collect community-specific dada to inform and improve internal decision making and policy development
One-time survey or regularly administered	Regularly – every 4 years
Length of time to develop survey	Information not available
Length of time for survey administration	Information not available
Length of time for analysis of survey results	Information not available
Size of survey population	10, 000
Geographic distribution	Surveyed 4 communities located throughout southeastern BC.
Proportion of target population living on-reserve	Information not available
Survey Design Components	
Survey Administration Structure	
Who initiated survey	Came from within the community
Who was the survey process managed by	Community researchers
How well did this management structure work	Very well
Sample Design	Sample Survey
How was the sample chosen	Used random number generators to generate sample
Target population	Information not available
Survey frame	Master list of nation
Data collection methodology	In person interviews Interviews were conducted by census takers from the community who went door to door to participants homes and places of work Telephone and skype interviews were available to the few who lived outside of the communities
Question development	
Were questions from existing surveys and/or new questions created?	Information not available

Survey Background	
What proportion were new questions developed for this survey	Information not available
Names of other surveys questions were pulled from	Information not available
Did all respondents fill out the same questionnaire or were there different versions	Information not available
Number of questions	Information not available
Survey pre-testing	
Were surveys questions pre-tested	Yes
How were survey questions pre tested	Survey questions were tested by community members through a survey testing workshop
How many people completed the pre-test of survey questions?	Multiple people
Was the survey pilot tested	Information not available
How many people completed the pilot test	Information not available
Were those completing the pilot test part of the population being surveyed	Information not available
Incentives	
Were incentives used	Yes
Type of incentives were used	Prize draws Flat screen TV iPAds
Importance of incentives	Important
Communication Strategy	
How was survey advertised and promoted in the community	Sent out physical letters to everyone, sent out emails, promoted it through social media, posters
Was the Chief/Band office involved in promoting the survey	Information not available
Implementation	
How were respondents contacted	Information not available
How many follow up requests were made	Information not available
How were these follow-up requests scheduled	Information not available
How was consent gained	Information not available

Survey Background	
How was confidentiality and protection of data ensured	Information not available
Community consent and/or individual consent	Information not available
How was confidentiality and protection of data ensured	Information not available
How were participants informed of data confidentiality and protection measures	Information not available
What was the average time it took for respondents to fill out the survey	35-90 minutes
Time of year data collection occurred (month)	Information not available
Survey Outcomes	
Response rate	First iteration – 10%, Second iteration – 98%
How many people asked to complete the survey	Information not available
Total number of completed surveys	Information not available
How were survey results disseminated/communicated	Shared data on their website and at AGM High-level report of results for upper management 10-page PDF with visuals and descriptive statistics made available to community members
Utilization of survey data	
What individuals, groups or organizations made use of the data	Used by upper management within the community
How were survey data used	Used to make stronger arguments with the province Data used for negotiations with industry around development projects Determining what programs were needed Data helps the community to move forward Used in the context of reconciliation
What, if any, were the specific outcomes that were a result of survey data	Data used for discussions with industry and determining what programs were needed
How useful have the survey results been in community planning and decision making	Very useful
Who had ownership and control over the survey results	The Ktunaxa Nation
Was there an evaluation of the survey method and management	Information not available

Survey Background	
after completion of the survey	
Were initial goals of the survey achieved (Scale from 1-10)	Information not available
Survey strengths	Information not available
Survey weaknesses	Information not available
Lessons learned	Information not available
Did the survey build capacity within the community	Yes

Appendix C

Musqueam Community Census Methods

Survey Background	
Purpose/ objectives of survey	Part of the monitoring and evaluation of the CCP to determine how the community is doing
One-time survey or regularly administered	Census – administered every 4 years
Length of time to develop survey	4 months
Length of time for survey administration	6 months
Length of time for analysis of survey results	4 months for initial analysis, more in depth analysis still on going
Size of survey population	1637
Geographic distribution	Most of the survey population (75%) live on reserve or in the surrounding city of Vancouver, about a quarter live outside Vancouver
Proportion of target population living on-reserve	50%
Survey Design Components	
Survey Administration Structure	
Who initiated survey	Initiated by the treaty lands and resources department
Who was the survey process managed by	Survey process was managed by community researchers. Community planner and policy analysist were the lead on the survey design and administration process, but also had help from individuals within the administration as well as community members and some input from consultants
How well did this management structure work? (On a scale of 1 – 10)	Very well – 10/10
Sample Design	Census
Target population	1637
Survey frame	Band membership list
Data collection methodology	Used multiple methods: Predominant method on reserve was self-administered paper copies, but also included computer-assisted methods through tablets brought by survey administrators, an online platform and mail
Question development	

Survey Background	
Were questions from existing surveys and/or new questions created?	Combination of new and existing questions No questions were pulled directly from other surveys, everything was tweaked to the Musqueam community
What proportion were new questions developed for this survey?	About 25%
Names of other surveys questions were pulled from	N/A
Did all respondents fill out the same questionnaire or were there different versions	Yes, but there were two surveys distributed: a personal and a household survey
Number of questions	Household – 20 Personal – 36
Survey pre-testing	
Were surveys questions pre-tested	Yes
How were survey questions pre tested	Survey questions were tested 10-15 times by community members, staff, experts in the office
Was the survey pilot tested (*testing of finalized survey and implementation process*)	Yes
How many people completed the pilot test	24
Were those completing the pilot test part of the population being surveyed	Yes, they were community members
Incentives	
Were incentives used	Yes
Type of incentives used	Incentives included cash promised cash rewards and prize draws Cash rewards: 5$ gift card to Starbucks or Tim Horton's for every person to complete the survey Prize draw: Multiple tablets
Importance of incentives (Scale of 1-10)	
Communication Strategy	
How was survey advertised and promoted in the community	Catchy logo, posters, newsletter, online Facebook page, promoted at staff and manager meetings
Was the Chief/Band office involved in promoting the survey	Managers shared information about the survey through word of mouth
Implementation	
How were respondents contacted	Phone, email and in person
How many follow up requests were made	Weekly or biweekly email follow ups to those who started the survey online but hadn't finished it yet For paper surveys requiring pickups the number of follow-ups varied, continued to follow up until the survey was complete

Survey Background	
How were these follow-up requests scheduled *(How much time was allowed between initial distribution or contact attempt and follow up requests)*	No formalized scheduling
How was consent gained	Anyone under 19 – required parent or guardian consent Everyone over 19 consented by filling out the survey Asked for written consent in order to collect contact information from participants
Community consent and/or individual consent	Inherent community consent because survey was initiated/mandated by the community
How was confidentiality and protection of data ensured	Responses kept on internal server Anonymized data and removed any personal identifies before exporting data Paper copies kept in filing cabinet and shredded after they were transcribed
How were participants informed of data confidentiality and protection measures	Informed in writing on the cover page, and explained verbally by census-takers
What was the average time it took for respondents to fill out the survey	Household survey – about 20 min Personal – 30-45 min
Time of year data collection occurred (month)	August to January
Survey Outcomes	
Response rate	16% for personal 33% for household
How many people asked to complete the survey	Goal was for 1278 members to be aware of the survey but unsure of exact number
Total number of completed surveys	215 personal 132 households (417 individuals)
How were survey results disseminated/communicated	Booklet given to funders and community members Data provided at consultations that were being held to update community plan Pamphlet of the main information from the survey Information also available on line
Utilization of survey data	
What individuals, groups or organizations made use of the data?	Chief and Council Upper Management Managers
How were survey data used	Strategic planning, budget allocation, education needs, employment and training needs, housing Used to support funding applications – health data for health funding applications Community planning, development planning, social program

Survey Background	
	planning, financial planning, communicating with over governments, negotiations, leveraging funding Used for negotiations Supplement or replace INAC data consultants were using (data from the Musqueam Census is much more accurate)
What, if any, were the specific outcomes that were a result of survey data	Health department harm reduction plan Strategic planning for the education department Demographic information used for future development plan for land use planning on reserve Capital corporation uses results to help determine where to direct revenues Census results help to identify community priorities and objectives in CCP
How useful have the survey results been in community planning and decision making	Very useful - 10/10
Who had ownership and control over the survey results	The community Data owned by community and stored on an internal server
Was there an evaluation of the survey method and management after completion of the survey	Yes After completion, design and administration reviewed by the community planner and policy analyst Kept methodological records, recorded how survey questions were coded for analysis Documented survey information – on how to change or reorganize for future iterations
Were initial goals of the survey achieved (*Scale from 1-10*)	Yes – 9/10
Survey strengths	Flexibility that the community needed
Survey weaknesses	Long time window Unable to produce a snapshot in time Different literacy levels Not the best way to capture everyone's realities
Lessons learned	Keep survey internal and do it within the community Even a good consulting company does not really know what the community needs Build capacity within staff to do it internally if it's not there to begin with It always takes longer than you think
Did the survey build capacity within the community	Yes – built both community and administration capacity Built community capacity in terms of understanding their community, built surveyors' capacity, trained community members Built administration capacity substantially, now have reliable community data for evidence-based decision-making, increases ability to plan effectivity, and to increase funding capacity. Experience of working on the census has built capacity in terms of ability around project and data

Survey Background	
	management has improved ability to conduct future surveys

Appendix D.

Tsawwassen Well-Being Survey Methods

Survey Background	
Purpose/ objectives of survey	To provide Tsawwassen leadership with an understanding of the current levels of well-being in the community
One-time survey or regularly administered	One time – with the potential to be administered regularly
Length of time to develop survey	*Information not available*
Length of time for survey administration	Over summer-fall 2018
Length of time for analysis of survey results	*Information not available*
Size of survey population	260 (all TFN members over the age of 18)
Geographic distribution	Most of the survey population lived on Tsawwassen Lands, or in the Lower Mainland. Others live on Vancouver Island, in Interior BC, or in Washington State
Proportion of target population living on-reserve	50%
Survey Design Components	
Survey Administration Structure	
Who initiated survey	Tsawwassen leadership
Who was the survey process managed by	A team of community researchers and external researchers UBC team of researchers joined a committee of Tsawwassen government and community representatives (the Tsawwassen survey committee) to collaboratively design and administer survey.
How well did this management structure work (On a scale of 1 – 10)	*Information not available*
Sample Design	Census
Target population	Everyone over the age of 18
Survey frame	*Information not available*
Data collection methodology	In-person interviews, with the option for phone interviews for members unavailable for interviews Each interview session consisted of open and closed-ended qualitative questions asked by the interviewer, followed by categorical survey questions that the respondents filled in on their own.
Question development	*Information not available*

Survey Background	
Were questions from existing surveys and/or new questions created	Combination Used a range of existing survey questions and indices of well-being used by other statistical agencies, and developed questions that were specific to the Tsawwassen.
What proportion were new questions developed for this survey	*Information not available*
Names of other surveys questions were pulled from	Canadian Census (Statistics Canada) General Household Survey (Statistic Canada) Personal Wellbeing Index (International Wellbeing Working Group)
Did all respondents fill out the same questionnaire or were there different versions	Yes
Number of questions	*Information not available*
Survey pre-testing	
Were surveys questions pre-tested?	*Information not available*
How were survey questions pre tested?	*Information not available*
Was the survey pilot tested (*testing of finalized survey and implementation process)*	*Information not available*
How many people completed the pilot test	*Information not available*
Were those completing the pilot test part of the population being surveyed	*Information not available*
Incentives	
Were incentives used	Yes
Type of incentives were used	Promised cash rewards $50.00 for everyone who filled out the survey
Importance of incentives (Scale of 1-10)	Information not available
Communication Strategy	
How was survey advertised and promoted in the community	Prior to the commencement of interviewing, the Tsawwassen Government sent introductory letters to all Tsawwassen Members over the age of 18 explaining the relevance of the study and inviting them to participate in it. UBC research team attended a Tsawwassen Community Retreat June 2 and 3, 2012 to introduce the study The Government employed a Tsawwassen Member who personally called each eligible Member to arrange a time to be interviewed.
Was the Chief/Band office involved in promoting the survey	Yes

Survey Background	
Implementation	
How were respondents contacted	Phone
How many follow up requests were made	*Information not available*
How were these follow-up requests scheduled	*Information not available*
How was consent gained	*Information not available*
How was confidentiality and protection of data ensured	*Information not available*
Community consent and/or individual consent	*Information not available*
How was confidentiality and protection of data ensured	*Information not available*
How were participants informed of data confidentiality and protection measures	*Information not available*
What was the average time it took for respondents to fill out the survey	90 minutes
Time of year data collection occurred (month)	Summer and fall
Survey Outcomes	
Response rate	60%
How many people asked to complete the survey	260
Total number of completed surveys	156
How were survey results disseminated/communicated	*Information not available*
Utilization of survey data	
What individuals, groups or organizations made use of the data?	Academics Tsawwassen government
How were survey data used	Used in EAs – used by CEAA and port metro Van
What, if any, were the specific outcomes that were a result of survey data	*Information not available*
How useful have the survey results been in community planning and decision making	*Information not available*
Who had ownership and control over the survey results	Tsawwassen First Nation have ownership of the data collected through the survey. UBC professor and research lead is the steward of the data and has the exclusive right to use the data

Survey Background	
	for research and publication.
Was there an evaluation of the survey method and management after completion of the survey	*Information not available*
Were initial goals of the survey achieved (*Scale from 1-10)*	*Information not available*
Survey strengths	*Information not available*
Survey weaknesses	*Information not available*
Lessons learned	*Information not available*
Did the survey build capacity within the community	*Information not available*

Appendix E.

Interview Questions

Background Questions

1) Why was the survey developed/ what were the survey objectives?
2) Was it a one-time survey or a survey that is regularly administered?
3) How long did it take to develop the survey?
4) How long did survey administration take? *(How much time was there between the distribution of survey to respondents and the survey completion date)*
5) How long did it take to analyze the survey results and make findings available to decision makers?
6) What was the size of the target population? (*The entire population for which information was wanted)*
7) What was the geographic distribution of the target population? *(Approximately what percent of the population was geographically contained within a specific area such as a First Nations reserve, city or rural community?)*
8) Approximately what proportion of the target population live on-reserve*?*

Administration of Survey

9) Who initiated the survey?
   a. Chief/ band council
   b. Organization within the community (Please describe: _____)
   c. External organization (Please describe: _____)
   d. Other (Please describe: _____)
10) Was the survey process managed by:
   a. A management team of community researchers?
   b. A management team of external researchers?
   c. A management team comprised of both community and external researchers?
11) How well did the management structure for the survey work? (Please rate on a scale from 1 to 10 with 1 being not well and 10 being very well)
12) Did you conduct a sample survey or a census survey? *(Sample survey meaning data were collected for only a fraction of units of the population, and census survey meaning data were collected for all the units in the population)*
13) If it was a sample survey, how was the sample chosen?
   a. Non-probability sampling
      (*Selecting units from a population using a subjective method*)
   b. Simple random sampling
      (Every possible sample has an equal chance of being selected)
   c. Systematic or interval sampling
      (Units are selected from the population at regular intervals)
   d. Stratified sampling

> *(Population is divided into homogeneous, mutually exclusive groups, and samples are selected from each group)*
>   e. Other (Please describe: _____)
14) What list did you use to select and contact respondents?

Data collection

15) What data collection methodology was used?
   a. In person interviews
   b. Telephone interviews
   c. Mail questionnaires
   d. Web survey
   e. Mixed-mode (Please describe: _____)
   f. Other (Please describe: _____)
16) Why did you use this data collection methodology?
17) If you were doing the survey over again, would you use this same method for data collection or a different method and why?

Questionnaire Development

18) Were the questions for the survey:
   a. Based on questions from other surveys?
   b. New questions developed for this survey?
   c. A combination of questions from other surveys and new questions developed for this survey?
19) If questions were a combination of existing and new questions, approximately what proportion were new questions developed for this survey?
20) If questions from other surveys were used, please name the surveys which you drew from and explain why you used questions from these surveys.
21) Did all respondents fill out the same questionnaire or were there different versions for different respondent categories? (*E.g. An adult version and a youth version)*
22) How many questions were in the survey?

Survey Testing

23) Were the survey questions pre-tested?
24) If so, how many times were the survey questions pre-tested?
25) How many people completed a pre-test of survey questions?
26) Was the survey pilot tested? (*Testing of finalized survey and implementation process)*
27) If so, how many people completed the pilot test?
28) Were those completing the pilot test part of the population being surveyed?

Incentives

29) Were any incentives used to encourage completion of the survey?
30) If yes, please describe the incentive used.
31) How important were the incentives in encouraging respondents to complete the survey? (Please rate on a scale from 1 to 10, with 1 being not important and 10 being very important)
32) If you were doing the survey over again would you make any changes to the incentives used and if so why?

Survey Promotion/ Communications strategy

33) Please describe any efforts to inform the community about the survey in advance of the respondents being contacted to complete the survey.
34) Was the Chief/Band office involved in promoting the survey?

Implementation

35) How were respondents contacted?
   a. In-person
   b. Phone
   c. Email
   d. Other (Please describe: _____)
36) How many follow up requests were made to ask respondents to complete the survey*?*
37) How were these follow up requests scheduled? (*How much time was allowed between initial distribution or contact attempt and follow-up requests*)
38) How was consent from respondents gained?
39) Did you obtain community consent as well as individual consent?
40) How was confidentiality and protection of data ensured?
41) How were participants informed of data confidentiality and protection measures?
42) What was the average time it took respondents to complete the survey?
43) What time of year did data collection occur (which month(s))?
44) Why was this time of year chosen?

Survey Outcomes

45) How many people were asked to complete the survey?
46) Approximately how many surveys were completed in total?
47) Were the survey results disseminated to the community?
48) If yes, please describe how the survey results were disseminated to the community.
49) What individuals, groups or organizations made use of the survey results?
50) How were survey results used?
51) Can you identify any specific outcomes and/or decisions that were influenced by the survey results?
52) How useful have the survey results been in community planning and decision making? (Please rate on a scale from 1 to 10, with 1 not useful and 10 very being useful)

53) Who had ownership and control over the survey results?
   a. The community
   b. Outside researchers
   c. Shared ownership between the community and outside researchers
   d. Other (Please describe: _____)
54) Was there an evaluation of the survey method and management after completion of the survey?
55) What were the strengths of the survey method?
56) What were the weaknesses?
57) If you were doing the survey over again, what if any changes would you make in the survey design and management?
58) Overall, what were the lessons learned/recommendations for future surveys?
59) Were the objectives of the survey achieved? (Please rate on a scale from 1-10, with 1 being objectives not achieved at all, 10 being objectives fully achieved)
60) Did the survey process help to build capacity in the community?

The Survey Process

61) In your experience doing survey research, what if any differences in design and administration methodologies are required for:
   a. Survey research with First Nation communities relative to non-Indigenous populations?
   b. Community-level survey research relative to larger scale surveys?
62) Were there specific guidelines you followed for approaching how to work with the community?
63) What were the important considerations you identified for working with a First Nation community?
64) Do you feel these considerations were specific to the community you worked in or can they be considered common themes for doing research with First Nation communities?
65) Are you aware of any other First Nation community surveys?