"I've learned that people will forget what you said, people will forget what you did, but people will never forget how you made them feel"

- Maya Angelou

University of Alberta

Intergenerational resilience in Aklavik, NT – exploring conceptualizations, variables, and change across generations

by

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A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements for the degree of

> Master of Science in Rural Sociology

Resource Economics and Environmental Sociology

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Fall 2012 Edmonton, Alberta

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Abstract

I explore resilience qualitatively and quantitatively with youth, adults, and elders in Aklavik, Northwest Territories, Canada. Using focus groups, semistructured and follow-up interviews, the research questions were: How is resilience defined in Gwich'in and Inuvialuit cultures? What themes might be useful for understanding the resilience of youth, adults and elders and, examining these themes, what are the similarities and differences between generations (as observed quantitatively)? What changes in the community and on the land are important to different generations? The results suggest that Gwich'in and Inuvialuit elders define resilience similarly to other indigenous cultures whilst offering additional perspectives. Fewer youth reported having traditional language, knowledge and spirituality than elders, but expressed a desire to learn them and described spiritual experiences. All generations had similar perspectives about what changes were negative and positive for the community and the land and how they would like to see the future of the community.

Acknowledgements

This research was made possible by the enormous support and hard work of people in Aklavik and Inuvik. I wish to express my heartfelt gratitude to Velma Illasiak and Bonnie Koe for their hands-on involvement and guidance in carrying out the research in Aklavik and for brainstorming discussion ideas and helping to craft outcomes from the research. I thank Bridget Laroque for her great help from Inuvik in building a network of people who could support the research; without her early involvement, the project would not have been possible.

I am grateful to my supervisor Dr. Brenda Parlee for her ongoing guidance and support through my learning process. I truly appreciate her encouragement to challenge and believe in myself and build my skills. I wish to thank as well the support of my committee members Dr. Makere Stewar-Harawira and Dr. Naomi Krogman for their ideas and kind encouragement through this process.

Thank you to the Aurora Research Institute for their logistical help and support through the project and to Jerome Gordon in the Renewable Resource Council in Aklavik.

I wish to express my gratitude for the financial support of the ACADRE Network Environments for Aboriginal Health Research (NEAHR) Graduate Award, the Northern Scientific Training Program (NSTP), and the Circumpolar/Boreal Alberta Research grant (C/BAR) and to the Canadian Circumpolar Institute for their logistical support. Thank you to my beloved family and friends, it is your love and support that helped me believe in my abilities and strive for my goals.

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Chapter One: Setting

1.1 Introduction

As some small indigenous communities across the global North face rapid social and ecological change, elders express their concern for how future generations will adapt (Chapin et al., 2004). "What will [the future] be like for our children and our children's children? I think it will be hard for them. I think about that a lot" (Late Judith Catholique in Parlee, O'Neil, & Lutsel K'e Dene First Nation, 2007). Responding to this concern, in my research I aim to shed light on resilience in the community of Aklavik, Northwest Territories (NT), Canada. I sought to do this through understanding how resilience is defined in Gwich'in and Inuvialuit cultures; exploring what themes might be useful for understanding the resilience of youth, adults and elders, and examining the themes, observing what the similarities and differences are between generations (as observed quantitatively); and learning what changes different generations are focusing on as important to Aklavik. Through this research with Aklavik, I more specifically aimed to answer the questions: How is resilience defined in Gwich'in and Inuvialuit cultures? What themes might be useful for understanding the resilience of youth, adults and elders, and examining these themes, what are the similarities and differences between generations (as observed quantitatively)? What changes in the community and on the land are important to different generations?

In this chapter, I first briefly introduce Aklavik as the case study community and I describe the approach I used in the research. Next, I outline the theoretical background on resilience that guided this research. I outline

how indigenous communities have defined resilience. I summarize themes other researchers have used to understand resilience and that might be useful to pay attention to in exploring resilience for a pilot survey. As well, I describe issues facing the region that provide a backdrop for studying adaptation. I then describe the purpose and objectives of the research, as well as some of the limitations to it. I reflect on the social location of myself as a researcher in the community and outline the organization for the rest of the thesis. First, I begin with a brief description of the community involved with this research, Aklavik, NT, Canada.

1.2 Introduction to Case Study Community

Aklavik is a small, indigenous, resource-based community located in the Western Arctic in the Mackenzie River Basin (Figure 1). In this section, I briefly introduce the community; a more in-depth exploration of Aklavik is provided in Chapter Two (Section 2.2). The community of 594 people is comprised mostly of Gwich'in, Inuvialuit, and Métis people (Statistics Canada 2006). Alongside other communities in the Western Arctic, Aklavik has seen changes in the community, and on the land, which have had an impact on traditional livelihoods, culture, and resource use (these and other impacts are detailed in Section 1.4.3). Yet, while this case study community has faced change, Aklavik also has a specifically intriguing history with resistance (Usher & Brody, 2010) and the protection and revitalization of traditional culture (Lewthwaite, 2009). The history of this indigenous community, both facing and directing changes for several generations, made me curious to

explore the concept of resilience in Aklavik across different generations.

Figure 1

The location of Aklavik in the Northwest Territories, Canada (from Natural Resources Canada 2006).



1.3 Approach

To explore resilience in Aklavik, I was inspired by the writings of a small handful of scholars. First, I was influenced by the work of Israel, Schulz, Parker, & Becker (1998) and Minkler (2005) in community health that aims to have close community involvement, serve the needs of the community, and can be a process of social change in an approach they refer to as communitybased research. I was also inspired by the work of Smith (1999) and Rigney (1999) who describe the need for research to serve the epistemology of research participants and to remove its colonial underpinnings. Together, these scholars influenced how I went about designing and conducting this research, of which the key elements were: i) coordination of the project with regional and local Gwich'in organizations (Gwich'in Council International, Ehdiitat Renewable Resources Council); ii) use of a mixed methods approach to data collection that involved a local research team in development and implementation; iii) hiring local research assistants to help develop the interview guide and focus group, collect data, and interpret and disseminate the results; iv) participating in the community (staying in Aklavik for four months over two visits); and v) reporting research results to the community (March 6th to 21st, 2011).

One of the orientations of my research, as a part of the ACRC project, was as a pilot study to develop an in-person survey that could be later utilized (in future research) in different communities in the Canadian North. Prior to visiting Aklavik, my supervisor and I drafted an interview guide (that would act as the basis for the survey). This was based on a review of the literature,

which helped me understand how other researchers have measured resilience in an indigenous context. These came from research with non-indigenous people (Adger, 2000; Connor & Davidson, 2003; Gooch & Warburton, 2009; Grossman et al., 1992; McGloin & Widom, 2001; Redman & Kinzig, 2003; Rutter, 1985, 1987; Tugade & Fredrickson, 2004) and indigenous people (Chandler & Lalonde, 1998; Davidson-Hunt & Berkes, 2003; Fleming & Ledogar, 2008; Ford, B., & Wandel, 2006; Mignone & O'Neill, 2005; Rauhut, Rasmussen, Roto, Francke, & Ostberg, 2008; Robards & Alessa, 2004; Turner, Gregory, Brooks, Falling, & Satterfield, 2008; Wexler, DiFluvio, & Burke, 2009; Young & Einarsson, 2004).

Typical of some models of community-based research (for example, Israel, et al., 1998), I used a combination of different methods to collect data. Data were collected using focus groups, as well as semi-structured, and unstructured interviews. Focus groups with youth (n=6) and elders (n=6) were held to discuss the meanings of resilience from Gwich'in and Inuvialuit perspectives and explore themes of what youth and elders felt to be a part of their experience with resilience. I used these themes both as validation and fine-tuning of the previously developed interview guide and included additional themes that were raised. Interviews were conducted with 26 participants (total n=26) across three generations (youth [n=9], adults [n=8], and elders [n=9]) in September through October 2009.

During the process of conducting focus groups and semi-structured interviews, I began identifying themes that could be further explored with participants while I was in the community. To explore these additional themes, unstructured interviews with elders (n=2) and youth (n=2) were held at the end

of the first visit (late October 2009). The results of the interviews, focus groups, and analysis were reported back to each individual participant in person, the Ehdiitat Renewable Resources Council (March 10, 2011) and a community dissemination meeting (March 16, 2011). Unstructured interviews were held with elders who had participated in the research previously (n=3) to explore preliminary results and emerging insights during the return to the community (March 15, 18, and 20, 2011).

1.4 Theoretical Guidance

In this section, I briefly introduce resilience as the theoretical basis to the research. This includes definitions and the need for indigenous interpretations of resilience, how it has been studied quantitatively in other research, and issues motivating the study of resilience in the North.

1.4.1 Definitions of resilience.

Resilience has different disciplinary and cultural interpretations. In psychiatry, resilience has been defined as being based linearly on factors and to "embody the personal qualities that enable one to thrive in the face of adversity" (Connor & Davidson, 2003, p. 76). An interpretation of resilience in psychology sees it as an inherent capacity of all individuals to live well (Richardson, 2002). Social resilience to social and ecological change is defined as "the ability of groups or communities to cope with external stresses and disturbances as a result of social, political and environmental change" (Adger, 2000, p. 347). While these non-indigenous conceptualizations of resilience are "pertinent to the experience of indigenous populations" (Kirmayer, Dandeneau, Marshall, Phillips, & Williamson, 2011), they often do

not reflect their lived experience and there is need for indigenous people to engage their own meaning of resilience (Scarpino, 2009).

It is valuable to incorporate an indigenous construction of resilience research with indigenous people because, based on lived experience, they contribute cultural, historical, and epistemological depth to the general definitions of resilience (Kirmayer, et al., 2011). Scarpino (2009) directly opposes non-indigenous definitions of resilience, stating that they are not applicable to aboriginal experience or worldviews. She defines resilience as a relational process of finding balance in relationship with creator, relationship with others, and relationship with self, and she uses the Medicine Wheel to visually symbolize resilience as an idea that often cannot be systematically observed. Heavyrunner and Marshall (2003) describe resilience as having a strong emphasis of never giving up. "The Lakota translation [for resilience] is wacan tognaka (strong will)" and the Ho-Chunk translation of resilience is "wa nah igh mash jah (strong mind)" (HeavyRunner & Marshall, 2003, p. 17). Mohawk describe resilience as a resistance to environmental destruction of traditional territories and the revitalization of traditional language and culture, and Métis describe it as a process of relying on self and community and "C'est d'la débrouillardise ça, la résilience, c'est d'être débrouillard" [That's resourcefulness, resilience; it's being resourceful]' (Kirmayer, et al., 2011, p. 88). Moreover, resilience for Inuit is analogous to *niriunniq* or the English definition of hope, through equilibrium with social, spiritual, personal, and environmental forces (Kirmayer, et al., 2011). Resilience is "a natural, human capacity to navigate life well" (Fleming & Ledogar, 2008, p. 49). The lived experience of aboriginal people describes resilience not as factors to protect

against risk, but as a balancing of many forces to create equilibrium among all aspects of life. To find an appropriate definition for Aklavik, in this research I explored Gwich'in and Inuvialuit conceptualizations of resilience.

1.4.2 Understanding resilience: themes relevant to indigenous communities.

The measurement of resilience is controversial and difficult in cross-cultural contexts, particularly for Aboriginal communities. In this research I explore some themes in the literature that might be useful for understanding resilience. I also include examples of how resilience has been "measured" elsewhere. In this study I chose to focus on the themes that are summarized in Table 1. Of these, the most relevant to the findings of this research are traditional knowledge, traditional language, and spirituality, which are explored in that order in this section.

Table 1

Themes for exploring resilience

Theme (Question # in research)	Description
Gender (1)	Women and men respond differently to change (Grossman, et al., 1992). Women often take on emotional and financial duties (Alway, Belgrave, & Smith, 1998). In the North, women typically earn more than men and are adaptable to changing careers and attaining further education.
Age (3)	Traditional and cultural practices are not being transmitted to youth and potentially threatening their ability to adapt and survive (Ford, et al., 2006; Turner, et al., 2008).
Education (5-7)	A high school diploma is a marker of success (McGloin & Widom, 2001), but it's application in indigenous Northern communities might be inappropriate. For example, residential school (Fournier & Crey, 1997), and low formal education (Statistics Canada, 2006).
Employment (9)	Employment is a marker for success and adaptability (McGloin & Widom, 2001). It allows families to benefit from savings and insurance in hard times and provides financial resources to participate in subsistence activities (Ford, et al., 2006). However, in the North, median incomes are low, unemployment rates are high, with employment dominated by resource extraction industries (Duhaime et al., 2004).

Theme (Question # in research)	Description
Family/Friend/ Community Support (11-14 &16)	Emotional, financial, and logistical support between family, friends, and community are strong cultural responses that support adaptation in the long-term (Robards & Alessa, 2004). Furthermore, emotional support from family has been used as a measure for the positive life outcomes of young people when faced with risk (Grossman, et al., 1992; Rutter, 1987).
Feeling a part of community (15)	Having a collective perspective to struggle as a part of a community can help young people develop the motivation to face difficulty (Wexler, et al., 2009).
Time spent on the land (17)	Spending time on the land is crucial for transmission of Traditional knowledge and language, spiritual practices, as well as mental and cultural well-being (Berkes & Jolly, 2001; Gwich'in Renewable Resource Board, 1997; Hild & Stordahl, 2004), however, youth are not able to spend as much time on the land as others in the past (Ford, et al., 2006).
Traditional Knowledge (18) & Language (19),Spirituality (23)	See section 1.4.2
Ability to make change (24)	An action-oriented approach to life can be a marker to (Connor & Davidson, 2003; Rutter, 1987) and is a part of indigenous interpretations of resilience (Kirmayer, et al., 2011). It has positive outcomes for communities (Kral & Idlout, 2009) and correlated with reduced suicide in aboriginal communities (Chandler & Lalonde, 1998).
Community Leadership (25)	Leaders can coordinate all of the needs of a community through decision- making and action that serves and is supported by each member to foster its adaptability (P. Olsson, Folke, Galaz, Hahn, & Schultz, 2007).
Optimism, confidence, & self-reliance (27-29)	These have been used as measures of (Connor & Davidson, 2003; Rutter, 1987), supporting positive health outcomes of a person (B. Smith et al., 2008) and included in indigenous interpretations of resilience (for example Métis) (Kirmayer, et al., 2011).
Emotion (37)	Positive emotions support the health and wellbeing of individuals (B. Smith, et al., 2008) (Smith 2006) and regulate negative emotions (Tugade & Fredrickson, 2004). They are an important part of how aboriginal women interpret their experience, strength and process of resilience (Scarpino, 2009).
Reflection on change (37-40)	The resilience of a person is supported when he or she can reflect on difficulty with strength (Scarpino, 2009). Reflection is an important part of the adaptive management of social-ecological systems, allowing community members and decision makers to reflect on previous management practices and improve or change their use in the future (Wollenburg, Edmunds, & Buck, 2000).
Vision (51)	Vision can serve to motivate and direct, bringing unity within a person (through wisdom and life experience) (Scarpino, 2009), or in community for adaptation (Kirmayer, et al., 2011). There can be value to see the separate visions of community groups (Rawluk & Godber, 2011).

Traditional knowledge.

Traditional knowledge has supported the adaptation of communities in the

North through many generations. As an accumulated body of knowledge that

is built on the lived experience of ancestors (Turner, Davidson-Hunt, & O'Flagerty, 2003) and current generations (Berkes, 1999), it provides invaluable information for people surviving on the land and the spiritual guidance for honoring life and the creator that sustains them (Gwich'in Renewable Resource Board, 1997). This knowledge is passed directly from person to person and generation to generation, particularly from elders to youth (Berkes, 1999). However, there is growing concern that this essential knowledge is not being passed as it once was to younger generations (Turner, et al., 2003) and that this could be making young and future generations vulnerable if faced with such threats as climate change (Ford, et al., 2006). This research suggests that there is a difference between generations in the traditional knowledge that they hold, but participants provide interesting discussion on the implications and opportunities for the community, particularly leaning on the insights of youth in Aklavik.

Traditional language.

Traditional language is an essential part of the cultural transmission of traditional knowledge (Turner, et al., 2008). Since much of the knowledge that is drawn upon for adaptation, hunting, survival, and spiritual guidance comes from a time when families lived on the land and spoke their traditional language, being able to speak the language more closely connects people to the details of, and creates cultural depth to, that knowledge (Gwich'in Renewable Resource Board, 1997), can support communication between youth and elders (Ford, et al., 2006), and has been observed as a marker of reduced suicide in some aboriginal communities in Canada. There is a similar concern, however, with young people not learning the language of their elders and ancestors (Turner, et al., 2008) and it contributes to the vulnerability of communities to ecological change (Ford, et al., 2006). In this research, I compare the self-identified ability to communicate in one's traditional language between generations and observe that young people in Aklavik are not learning their traditional language, but explore some of the insights of different generations regarding this concern.

Spirituality.

While it can be seen as a component of traditional knowledge, I explore spirituality separately in this research. It can bring powerful meaning to aboriginal people's lives by connecting them to and building relationships with ancestors and the Creator (Fleming & Ledogar, 2008; Scarpino, 2009). Furthermore, it is an important force for connecting with vital animal species such as caribou for hunting (Gwich'in Renewable Resource Board, 1997). However, the face of spirituality in Aklavik is diverse; traditional spiritual teachings are present alongside Christian spiritual teachings from the Catholic, Anglican, and Baptist Churches (Anglican Church of Canada, 2008). After mission schools eroded traditional spirituality and encouraged families to follow Christianity (Fournier & Crey, 1997) and the suggestion that young people are not receiving their traditional cultural teachings, language, and knowledge (Ford, et al., 2006; Turner, et al., 2008), I was curious to see if younger generations were spiritual like their elders and if this was something that participants considered to be important for their resilience.

1.4.3 Why study resilience in the North?

Ecological, social, and cultural changes are influencing the face of communities in the Canadian North, and some have motivated research into how communities will cope with and adapt to these changes. Some of these changes include intergenerational segregation (Ford, et al., 2006), the rapid decline of caribou populations (Miller & Gunn, 2003), and global climate change (Chapin, et al., 2004; Huntington et al., 2007). As well, rapid globalization and economic development in the North (McCarthy et al., 2005), such as the major proposed project of the Mackenzie Valley Pipeline crossing indigenous traditional territories could have significant impacts (Usher, 1993). The legacy of residential school has impacted on the health of individuals and families (D. Smith, Varcoe, & Edwards, 2005). The contamination of lifesupporting country foods with toxic metals and PCBs threatens the local supply of healthy food (Dewailly et al., 1993; Kuhnlein, Receveur, Muir, Chan, & Soueida, 1995). Moreover, cultural differences between generations are reducing the ability of younger generations to adapt to changes, particularly on the land (Ford, et al., 2006). These changes provide an urgent backdrop from which to understand how indigenous Northerners define the process and cope with change.

Typically, resilience research has focused on responding to specific changes, decided by the researcher or organization, but this research takes a different approach. I asked community members what changes they felt were important in the community and on the land and how they felt that the community would respond to them. These questions can be found in the interview guide Section C (*see* Appendix A), the results of which are

summarized in Section 4.4. While acknowledging that some changes might be important, the purpose of not using specific changes in the research was explicit. I wanted to see what changes each generation were focusing on as shaping the future of their community and land, and how they saw Aklavik responding to them.

1.5 Research Objectives

The objectives of this research were directed by the funding International Polar Year (IPY) research grant called the Arctic Peoples, Culture, Resilience, and Caribou project. This IPY project was in collaboration the Arctic Athabaskan Council (AAC), Gwich'in Council International (GCI), Inuit Tapirit Kanatami (ITK), Dene Nation (DN), and Inuit Circumpolar Council (ICC) to conduct case study research on resilience in different communities in the North. The goal of the IPY project was to understand how communities are ensuring their health and wellbeing in the face of social and ecological changes using a mixed methods approach. This thesis research aimed to *1*) *understand how resilience is defined in Gwich'in and Inuvialuit cultures; 2*) *explore what themes might be useful for understanding the resilience of youth, adults and elders, and examining the themes, to observe what the similarities and differences are between generations (as observed quantitatively); and 3*) *learn what changes different generations are focusing on as important to Aklavik.*

1.6 Limitations of the Research

I made my best attempts to carry out research that was robust. However, there are inevitable limitations to the research that were encountered both from the

research design and me, as a researcher. In this section, I first describe the challenge of working on such an ambitious project. Second, as a researcher I also contributed my own biases that I needed to be aware of and work through. Furthermore, I describe that, as a person, my character could have both limited and created opportunity for the research. In this section, I cover each of these three evident limitations to the research and the steps I took to overcome them.

Having never undertaken a Masters project, my naivety guided me to attempt one that, in retrospect, was far too ambitious for the parameters of this exercise. It was probably more worthy of the time and money associated with doctoral research to look at the depth of resilience that I had hoped for. The research had initially been intended to compare different communities and was originally designed to develop a model of resilience for different generations. However, it was also intended to be sensitive to community needs and able to change where needed. This meant that it needed to be very flexible. After beginning, I realized that within a Masters project I could not logistically or financially interview the number of individuals in Aklavik to produce quantitative data that could be analyzed statistically. Recognizing these limitations, I focused the research on only one case study community and thus only two cultures (Gwich'in and Inuvialuit), and quantitatively I used only general descriptive statistics. While the results of the data are unable to provide any definitive conclusions for policy, they might provide information for the community or provide insight for more in-depth future research.

A clear limitation to the research is the inherent biases of the researcher that made me focus on certain parts of the data more than on others. This research produced only some of the interpretations that could be gleaned from

the data. To respond to this limitation, I followed different steps. First, I kept a field journal throughout my fieldwork and analysis in order to consciously keep an open and reflexive mind. This would allow me to not only detect, but also correct, any evident biases. As well, it allowed me to see emerging themes in the research that I might not have focused on initially. Second, I discussed the data collection, results, and analysis with my local research team in Aklavik, namely Velma Illasiak and Bonnie Koe. Together we discussed what the emerging results might mean and how they might be most meaningful to Aklavik. This allowed me to adjust any inappropriate interpretations of the results that I might have been making. I also discussed the results and my analysis with my supervisor for her feedback and input as well as with my student colleagues. I presented some process, results, and potential interpretations at academic conferences for peer feedback. Finally, I presented the results and their preliminary analysis to the Ehdiitat Renewable Resource Council, to attendees at a public workshop on the project, and with three additional elders in the community for their feedback in March 2011. Presenting the research to the local community, peers at the University of Alberta, and academic networks at conferences to receive feedback on the project process, results, and analysis helped to reduce the impact of my researcher bias.

A third limitation that I noticed as a researcher in Aklavik could have been my character. I am a quiet person who can be uncomfortable with feeling that I am imposing myself on someone and I am often reserved with group social settings. Acknowledging this about myself, I made conscious decisions and actions to work with it. As a fresh researcher in Aklavik, I realized that my

social comfort would direct what situations I involved myself in, and those that I did not. Conscious of this, I attended community gatherings and events to make friends and networks in the community that helped me in the research. I also spent time with community members one-on-one to connect with some people in greater depth. I lived with a local Inuvialuit family who had a young baby. They welcomed me into family circles and events. I developed a church community, attending every church service and event, and connected with people in a quiet context that made me feel comfortable. I made a conscious commitment to love the community, the people and my time there. Together, these actions opened me to connecting with, and seeing the beauty of, a place that might otherwise have intimidated my reserved spirit.

1.7 Reflections of Social Location

The background of the researcher has an important role in shaping and directing the research. This background should be transparent in order for possible areas of subjectivity to be made visible and support the later reflection and critique of the work. In this section, I first describe the need for illuminating the social location of the researcher. This is followed by describing relevant aspects of my personal and academic background that brought me to this research and my motivation for being a part of it.

It is important for the social location of the researcher be apparent to the reader. Qualitative research is often described as a dance (Janesick, 1998). And while the dancers, (or research participants) are described in research, it is also important that the choreographer (the researcher) be described (Bishop, 2005) in order to understand the motivation behind the work and the personal experience that might have shaped the research design and analysis.

Subjectivity is regarded as a reality of qualitative research, not a downfall, and should not be avoided but acknowledged (Bishop, 2005). It is imperative for qualitative researchers to outline their social location identified or areas of bias in order to ensure reflexivity the transparency of their research (Holloway & Wheeler, 2009). The intent of this section is to allow the reader to see my social location and acknowledge any biases or backgrounds that might be unconsciously directing the research.

I grew up in downtown Toronto in a non-indigenous, working-class family, which was spiritual but atheist. Until high school, I attended "alternative" schools that focused on anti-oppression and community empowerment. I am certain that this helped shape my interest in the strength and resilience of communities. My mother tongue is English, although I am fluent in French since my adult years. I am not a visible minority and I have not faced racial discrimination or had any mental, physical, or health disability. I have faced discrimination at times in my life for personal and linguistic reasons and wondered how to overcome it. I think that this makes me sensitive to oppression and discrimination in different communities and has motivated my interest in resilience. As a person, I am sensitive, emotional, and spiritual, and the attentiveness in the research to emotional and spiritual dimensions of resilience I am certain influenced by this.

For nearly a decade, I have pursued life in small communities and this interest motivated my involvement in this research. For summers as teenager, I worked on a farm in Northwestern Alberta and I travelled alone on my bicycle in New Zealand, working on farms across the country. My interest in indigenous and Arctic communities was shaped through research in Kuna Yala, Panama, and a field school program in Pangnirtung, Nunavut, which was followed by a summer in Churchill, Manitoba. My time spent in small communities developed a deep fondness for and interest in studying them.

1.8 Thesis Organization

This thesis is a monograph in six chapters. The first chapter serves as an introduction to the research. In the second chapter, Review of the Literature, I outline some of indigenous and non-indigenous definitions of resilience and how it has been measured both with indigenous and non-indigenous communities. In the third chapter, I outline the methodological approach that inspired me with the research and methods used to conduct it. In Chapter 4, I present the quantitative and qualitative data results from interviews and focus groups. In the discussion (Chapter 5) I suggest that while youth might appear less resilient than elders (quantitative data), the qualitative data suggests that there might be more similarities between generations than might be initially observed by quantitative data. I also highlight the described importance of emotional and spiritual dimensions in resilience and I conclude the thesis with a brief summary and suggestions about directions for future research.

Chapter Two: Literature Review

This chapter builds on parts of Chapter One to provide greater detail on the case study community and the theoretical basis for the research. This chapter is divided into two main sections. First, I provide details about Aklavik as the case study community. Then, I outline the literature from which I developed the three research objectives: *1) understand how resilience is defined in Gwich'in and Inuvialuit cultures; 2) explore what themes might be useful for understanding the resilience of youth, adults and elders, and examining the themes, to observe what the similarities and differences are between generations (as observed quantitatively); and 3) learn what changes different generations are focusing on as important to Aklavik.* I begin this chapter with a presentation of Aklavik and part of the community's story that made it an intriguing case study.

2.1 Case Study Community: Aklavik, NT

Aklavik is a community located in the Mackenzie Delta that overlooks Red and Black Mountain. A multicultural hamlet, Aklavik had a population of 590 in 2006, of which 545 community members identified as Gwich'in, Inuvialuit, or Métis (Statistics Canada, 2006). In its history, Aklavik has been a prominent trading post during the period of fur trade, a former centre for government in the region, and the location of two residential schools. In turn, it has been witness to many social, cultural, ecological, and economic changes in the region. Yet, what makes Aklavik intriguing as a case study community is not just the changes that it has seen through its history, but also how the community has responded to those changes. For example, the community

motto to this day is "Never Say Die", which comes from a period when community members resisted relocation. This section describes the elements of Aklavik's past and present story that make it particularly interesting for the study of resilience.

In the present story of the community, some general demographic measures for Aklavik (Statistics Canada, 2006), that I have included in this research (described in Table 1 and Section 2.2.2). These are age, gender, education, employment, and language. Among the 590 people who live in Aklavik, there are slightly fewer women than men, with 275 women and 315 men. Across generations the distribution of the population is quite equal; 140 were under 20 years of age, 155 were between 20 and 30 (which are considered youth in this study) 150 were adults (30-50), and 110 people were over the age of 50 (regarded as elders in this study). In 2006, the community had a low high school graduation rate and educational attainment: of the 400 community members who were over 15 years of age, 260 did not finish high school and had not received a diploma from a college or a degree from a university, 55 had received a high school diploma, 30 had a trades diploma or certificate, and 10 had a university degree. Unemployment in the community was high: of the 400 people over the age of 15, 160 were employed. As well, in the entire community, 85 people knew their Aboriginal language (Gwich'in or Inuvialuktun). This is quite low in comparison to other indigenous communities in the Arctic, where, for example, in Pangnirtung, NU, 89.4% of community members speak Inuktitut (Statistics Canada, 2006).

As with many indigenous communities around the world, Aklavik faces social, economic, and ecological issues, many of which are part of its historical legacy. For example, increasing involvement with the global market through capitalization can be regarded as an extension of colonization (Stewart-Harawira, 2005). From the more historic fur trade to more recent oil and gas activity, globalization has been drawn to the region and has created a transition away from the traditional economy that supported the resilience of indigenous people (Usher, Duhaime, & Searles, 2003) to a reliance on the wage economy that tends to be highly variable. This variability in the oil and gas industry has brought social and economic effects of fluctuating opportunities for employment and financial instability (Gamble, 1978; Usher, 1993). Alongside social and economic issues, the region also faces environmental issues that could threaten traditional lifestyles, access to traditional foods, and the infrastructure of the community.

Environmental issues in the Arctic have received much attention in recent decades. Such issues include climate change in the form of permafrost melting, landslides, and wildlife populations (McCarthy, et al., 2005) and barren ground caribou decline (Kruse, Klein, Braund, Moorehead, & Simeone, 1998). These ecological changes are predicted to severely impact the livelihoods and culture of northern indigenous communities and cultures (McCarthy, et al., 2005), and in particular the Gwich'in, who are people of the caribou (Gwich'in Renewable Resource Board, 1997). Aklavik has faced a history of regular floods due to its location directly in the Mackenzie Delta. Of concern for the community with regard to the floods is the impact on infrastructure since the town has been built on quite unstable silt (Newton, 1995). Floods are of growing concern throughout the region, with climate change models suggesting that communities in the Mackenzie Basin will be

particularly impacted by such things as flooding (Cohen et al., 1997). Current and future environmental issues might threaten traditional lifestyles, access to traditional foods, and local infrastructure, which only compound historical trauma in the region.

Two residential schools have been located in Aklavik through its history, and residential schools have been acknowledged for the trauma experienced by survivors and families of survivors. As stated by Prime Minister Harper in the formal apology in the House of Commons to Residential School survivors, "two primary objectives of the residential schools system were to remove and isolate children from the influence of their homes, families, traditions and cultures, and to assimilate them into the dominant culture. These objectives were based on the assumption [that] Aboriginal cultures and spiritual beliefs were inferior and unequal, [seeking], as it was infamously said, "to kill the Indian in the child." (Canadian Broadcasting Corporation, 2008). In the early 1900s, residential schools opened in the Mackenzie region as a joint initiative between the federal government and the Catholic and Anglican churches to provide an education for Aboriginal children in Canada. In Aklavik, the Catholic Immaculate Conception Residential School opened in 1925, and to replace schools in the region from Shingle Point and Hay River, the Anglican All Saints Indian and Eskimo Residential School (Anglican Church of Canada, 2008) opened in 1936. Children were taken from their homes and families, and were discouraged from practicing their traditional languages and cultures. Many suffered emotional, physical, and sexual abuse and even faced death. The legacy of such residential schools to this day impacts on the lives of

indigenous people as direct survivors and indirectly on their families. However, while marked by the history of residential schools, Aklavik has not been passive in some of the issues that it has witnessed and the following paragraphs highlight some of its successes in not only adapting to changes but creating the social environment that residents wanted to see for their home and community.

Established by the Hudson's Bay Company as a trading post in 1912, Aklavik was a hub of commerce and government in the region until its relocation in the 1950s (Usher & Brody, 2010). At this time, the infrastructure and geographic location of the town in the delta was not able to physically support the rapidly growing population of Aklavik to nearly 1,600 people (Anglican Church of Canada, 2008). In 1952, the federal government deemed the geographic location of the community on the silt land of the floodplain delta to be unsuitable for its growing population and infrastructure, and called for its relocation to East 3. This site on the east side of the Mackenzie Delta would later to be named Inuvik. However, half of the community refused to move. Community members organized a resistance, led by Arnold "Moose" Kerr who was the principal of the Aklavik Day School at the time. Community members were concerned that moving to Inuvik would threaten their traditional way of life, and culture, and the future for their children. They refused to resettle, holding firm that their quality of life, traditions, and livelihoods relied on staying on their traditional lands. It was during this resistance that the community adopted its motto "Never Say Die", a community hallmark that remains a pride of the community to this day (Usher & Brody, 2010).

Over the past decade, a current renewed resistance has been taking place (Lewthwaite, 2007). The community has reoriented Moose Kerr School around the objective of making the youth stronger leaders and individuals by strengthening traditional culture. The transformation of the Moose Kerr School has been described as providing a culture and place-based education.

[Culture and place-based education subscribes] to the provision of a secure, nurturing environment that reflects the culture of the community and promotes the participation of educational staff, students, families and the community in making decisions about learning. (Lewthwaite, 2007, p. 14).

The process of achieving this has been a community effort led by the principal of Moose Kerr school seeing the change that she felt needed to happen and taking the steps to prepare herself as a leader and the community to join the effort to make change (Lewthwaite, 2007).

Moose Kerr School did not start out as a school that would be described as a culture and place-based school. However, it was through community efforts and the leadership of the school principal that the transformation of the school was achieved. As Lewthwaite (2007) describes, it was more of a school in the community, than a community school as a stateadministered by the government of the Northwest Territories and regionally the Beaufort-Delta Education Council. At the beginning of her tenure as principal, Velma Illasiak described the feeling of Moose Kerr and the changes that she saw needed to happen. The school was not a community school. It was not our school. It didn't feel that it was ours. We had no ownership of the school. It didn't belong to Aklavik. It could have been any school down south. If I was a guest in this school does the school say anything about the community? No. Would someone know it was a school in an Aboriginal community; not just in appearance but how it operated? No. The social environment did not depict who we were, and students were switching off who they were when they come in the school. They were being labeled by teachers as bad kids but their parents and the elders knew these were not bad kids; many of them were wise kids, respected kids. The school was a whole different environment. There was a lot of disgruntlement in the community but no one was doing anything to address it. They saw there wasn't much success and that the school had little regard for the cultural values and knowledge of the community. The school needed to be reflective of the community. (Lewthwaite, 2007, p. 8)

Over the past decade, Moose Kerr has been directed by the objectives of providing an education to youth where each component of the curriculum and the school experience is considered an opportunity to learn "Aboriginal language, culture, traditions, and beliefs and designed to preserve and reinforce the Aboriginal identity of children, teachers, administrators, and community members" (Lewthwaite, 2007, p. 13). Such educational initiatives are described not only as "'alternative' ideas to education but also "as resistance initiatives commonly outside but often still within the 'mainstream' system'" (Lewthwaite, 2007, p. 1 citing Smith 2003). This educational resistance for the objective of strengthening traditional culture and values is similar to the community resistance a half century earlier where community members refused relocation with the motivation of protecting traditional values, culture, and livelihoods for the wellbeing of young and future generations.

The Gwich'in and Inuvialuit have worked hard to see that their traditional lands would be protected and managed for future generations. Aklavik is on the border of both territories, and thus provides an interesting

multicultural lens for exploring resilience. The Gwich'in Comprehensive Land Claim Agreement was signed in 1992 (Gwich'in Comprehensive Land Claim Agreement 1992) and the Inuvialuit Final Agreement in 1984 (Inuvialuit Final Agreement 1984). These agreements establish semi-autonomy from the federal government and transfer rights for self-government, land management, wildlife harvesting, economic development, and land use planning to Gwich'in and Inuvialuit communities. They are administered respectively through the Gwich'in Tribal Council (Gwich'in Tribal Council, 2011) and Inuvialuit Regional Corporation (Inuvialuit Regional Corporation, 2011). The semiautonomy of Gwich'in and Inuvialuit peoples and the unique location of Aklavik on two territorial lands provides an opportunity to learn about resilience from youth, adults, and elders of two different cultures.

2.2 Theoretical Guidance

I reviewed the literature to develop the three specific research objectives outlined in Chapter One (section 1.5). I will outline the development of each of these objectives in this order with the subsequent sections to follow.

While vulnerability is a popular lens for studying adaptation (see, for example Adger, 2000; Ford, et al., 2006; Ford & Smit, 2004), I made the conscious decision to not study the vulnerability of Aklavik to social and ecological change, and instead look at resilience. Vulnerability and resilience research are sometimes described as opposite ways of approaching the very similar topic of adaptation and can be complimentary literatures (Ford et al., 2008; Robards & Alessa, 2004). While I have incorporated both vulnerability and resilience research in this thesis, I have focused on presenting it through the lens of resilience because I see the former as a negative and discouraging
lens and the latter as a more positive and encouraging one. I was conscious of the warning from HeavyRunner and Marshall (2003) and Fleming and Ledogar (2008) against research that perpetuates stereotypes that Aboriginal people are damaged or vulnerable, and I tried to frame the research in a way that would see opportunity. I will begin this section on the development of the first research objective.

2.2.1 Definitions of resilience: a look across disciplines.

A literature review of research carried out with indigenous communities in Canada and elsewhere provides a useful context for my investigation of Gwich'in and Inuvailuit conceptualizations of resilience. Some literature suggests that non-indigenous worldviews tend to be oriented around social and physical dimensions of life, whereas indigenous worldviews tend to additionally incorporate emotional and spiritual dimensions (Stewart-Harawira, 2005). Definitions based on these worldviews create epistemological depth to resilience for indigenous communities (Kirmayer, et al., 2011). There is an emerging body of work that addresses indigenous definitions and conceptualizations of resilience.

In one study with indigenous women in Canada, resilience is defined as a relational process of finding spiritual, personal, and social balance. It can be looked at through the Medicine Wheel "that focuses on the process of interconnectiveness and dependence between individual, family community, Nations, the natural world, and the Creator in the form of circles within circles." (Scarpino, 2009, p. 41). As well, in the United States, two Aboriginal cultures describe resilience as having a strong emphasis on never giving up. "The Lakota translation [for resilience] is *wacan tognaka* (strong will)" and

the Ho-Chunk translation of resilience is "wa nah igh mash jah (strong mind)" (HeavyRunner & Marshall, 2003, p. 17). From their long history of having to fight for land rights and close proximity to large urban centres, a Mohawk community describes resilience as strength in a very specific context, as resistance to environmental destruction of traditional territories and the revitalization of traditional language and culture. Métis also describe it as strength, but a more insular strength and pride of relying on self and community and "C'est d'la débrouillardise ça, la résilience, c'est d'être débrouillard" [That's resourcefulness, resilience; it's being resourceful]"" (Kirmayer, et al., 2011, p. 88). An Inuit conceptualization is similar to the holistic one described by Scarpino (2009). It is analogous to "hope" (*niriunniq*) through balancing social, spiritual, personal, and environmental forces (Kirmayer, et al., 2011). Fleming and Ledogar (2008) describe resilience as innate. It is "a natural, human capacity to navigate life well" (p. 49). The lived experience of Aboriginal people creates diverse interpretations of resilience that seem to focus on a holistic balance of forces, founded in strength and spirituality, and is considered to be innate.

Like other Aboriginal communities highlighted in this literature review, Gwich'in and Inuvialuit cultures in Aklavik could have their own unique conceptualizations of resilience. I was intrigued in this research to understand *how resilience is defined in Gwich'in and Inuvialuit cultures*.

2.2.2 Understanding resilience: how it has been measured in other research

One way to learn about resilience is through quantitative measurement that can promote the health and wellbeing of individuals (Connor & Davidson, 2003).

Whilst my study could not have a sample size that would allow me to perform sophisticated statistics, I was still interested in having a primary glimpse into the resilience of the community based on themes that other research have suggested might contribute to or be connected to resilience. The benefit of looking at resilience quantitatively is that it can offer a rapid assessment that can support appropriate plans for improving and supporting the resilience of an individual. How I quantitatively explored resilience in this research was in part influenced by the Connor-Davidson Resilience Scale (CD-RISC) (Connor & Davidson, 2003). From this work and others, I identified themes that are suggested to be connected to resilience. On the advice of my supervisor and for ease of comparison, I decided to visually observe patterns in quantitative data between youth, adults and elders in Aklavik to glean insight into the resilience of the community.

The questions that I asked to generate the quantitative data were based on these themes that were identified as connected to resilience from the literature. I compiled a set of 16 themes that I felt would be pertinent to the study of resilience in Aklavik. Some of these came from the CD-RISC, and some from other literature (see Table 2). These were: gender, age, education, employment, support from family, friends, and community, feeling a part of a community, feeling a part of a community, time spent on the land, ability to make change, community leadership, optimism, confidence, self-reliance, emotion, vision, traditional knowledge, traditional language, and spirituality. The details of these as well as the reasoning for including them are summarized in detail in Table 2. As echoed in the literature, the results of the data show (Chapter Four) that youth do not have their traditional knowledge,

traditional language, and spirituality. This experience of youth and concern from elders was spoken of frequently in the research, and each of these themes is summarized.

Some studies suggest that young people are not learning traditional skills and knowledge for hunting and surviving on the land, which is being described as an "emerging vulnerability" for Inuit and Inuvialuit communities.

Boys in their adolescence are no longer becoming physically involved in harvesting because of southern educational and cultural requirements; there is increased dependence on waged employment; language differences now exist between generations; there is an increasing lack of funds to purchase equipment; and hunting now competes with alternative activities such as computer games and TV, and the desire among youth to follow 'Western' social norms. (Ford et. al. 2006:154).

Pearce et al. (2009, p. 11) echo this, suggesting that "social change and climate change have acted synergistically to affect Inuit livelihoods and adaptive capacity" and increasing vulnerability has been linked to "the loss of land skills among youth and to social problems". Furthermore, generational cultural differences create social distress in communities that "weaken traditionally strong bonds of affection, respect, and teaching roles across generations" and are traumatic to northern indigenous communities (Kral and Idlout 2009 p. 318). These concerns of vulnerability are alarming, and I saw exploring in more detail these differences from an opposite lens of resilience as an opportunity for this research.

While this concern is evidently very real for many communities, I had noticed that the research highlighting difference between elders and youth had come mostly from consultation with only elders. For example, Berkes and Jolly (2001), in studying adaptive capacity to climate change, described the transmission of traditional skills and knowledge as being somewhat incomplete among younger generations, according to interviews with hunters and elders and participant observation. Ford et al. (2006) describe cultural difference between generations as "intergenerational segregation" between elders and youth in terms of traditional knowledge transmission, but do not explicitly state working with youth. As well, while Pearce et al. (2009) interviewed nine youth to explore vulnerability to climate change in the Inuvialuit community of Ulukhaktok. However, the experience and perspectives of youth are not separated from other community members, making it difficult to understand a youth perspective on vulnerability and climate change. I was curious to see what conclusions might be drawn about adapting to social and ecological change if research included youth more closely and distinctly in the discussion.

Traditional knowledge.

Within resilience, vulnerability, and adaptive capacity research, traditional knowledge has received much attention as supporting indigenous people to adapt to and find opportunity in life on the land. Tying together cosmological, physical, and social spheres of knowledge that serve as a guide for life (Houde, 2007), traditional knowledge has utility for land management (Berkes & Jolly, 2001), survival, and spiritual guidance (Berkes, 1999; Houde, 2007). It is not, however, a stationary body of knowledge, but one that is cumulative and evolving, is developed through the adaptation of many generations (Berkes, 1999). The topic of traditional knowledge has become a popular area of study with many definitions and interpretations.

Table 2

Themes used to learn about resilience in Aklavik, NT.

Theme	Description
Gender	Women and men often respond differently to change, which could impact their demonstrations of resilience (Grossman, et al., 1992). For example, in response to crises, women will often take on emotional and financial duties (Alway, et al., 1998). In the North this is particularly the case, where women are described as being the major family breadwinners (Rauhut, et al., 2008) and more adaptable to economic changes than men by making changes in their lives to improve their employability (Rasmussen, 2009).
Age	There is concern that young generations will not be able to adapt to change because they are not learning traditional skills that have supported adaptation for many generations (Davidson-Hunt & Berkes, 2003; Ford, et al., 2006; Kral & Idlout, 2009), including traditional knowledge and language (Gwich'in and Inuvialuktun). These provide values such as respect, sharing and love, and spiritual teachings and skills for on the land such as hunting and gathering.
Education	Educational attainment can indicate the ability of a person to adapt to change, but is perhaps different in the North. For example, having a high school diploma has been used as a marker of success and an influence on resilience because it indicates the motivation of a person to work towards a goal and the increased opportunity for employment, resources, and knowledge (McGloin & Widom, 2001). However, this common marker is not necessarily applicable in the North where education levels tend to be low. In Aklavik, only 60 people over the age of 15 in the community have high school a diploma (Statistics Canada, 2006). The concept of education in the North is somewhat controversial because of residential school and the negative impacts that it has had in the lives of many people (Fournier & Crey, 1997) and the relatively inaccessible of post-secondary education to northerners (Johansson, Paci, & Hovdenak, 2004). Formal education does not necessarily reflect the wisdom and knowledge of northerners (Young & Einarsson, 2004).
Employment	Employment can indicate adaptability because a person has the motivation and initiative to be trained for and pursue employment and be ready and willing to change when necessary (McGloin & Widom, 2001) but may have a different application in the north. A person most likely will have the financial capital to support one's family and accumulate insurance and savings that would buffer a family through difficulty. Yet, in rural resource-based communities in the North, rates of unemployment tend to be high and median incomes low. This is coupled with the variable source of employment that has dominated in resource extraction industries (Duhaime, et al., 2004). Furthermore, employment allows northerners financial resources to go on the land for subsistence (Ford, et al., 2006). Employment and income can provide the means to support oneself and one's family, and adapt to difficulty while having the financial means to access the land and hunt. Like education, employment is an interesting possible influence on resilience in Aklavik where 29.3% of men and 14.3% of women are unemployed and the median income for a single adult was \$14,500 (Statistics Canada, 2006).

Theme	Description
Support: family, friends, community	Support from family, friends, and community might influence whether a person or community can overcome challenges. Positive family relationships and the cohesion of a family can measure positive life outcomes for youth (Grossman, et al., 1992; Rutter, 1987). In the North, support between community members can mitigate this risk of unemployment and low income (Robards & Alessa, 2004). "The evolved normative behavior [favor] the benefits of long-term sharing over individual, short-term boom and bust" (p.422). Sharing among extended family networks helps mitigate against uncertainty, providing security in the face of enduring or unpredictable changes, whether the changes are social, ecological, economic or any combination of the three (Robards & Alessa, 2004).
Time on land	Spending time on the land has great social, cultural, spiritual and subsistence implications for indigenous people. Traditional knowledge and language are learned while spending time on the land, hunting, fishing, gathering, or processing the materials sourced from the land (Gwich'in Renewable Resource Board, 1997). Time spent on the land is the only way to learn the landscape from firsthand experience. For Gwich'in, it improves family and spiritual connections (Craig L. Fleener in Hild & Stordahl, 2004). In previous generations, where life existed exclusively on the land, there was no shortage of opportunities to learn, use, and pass on these skills. However, presently where people live almost exclusively in communities, it is increasingly difficult to spend time on the land for hunting, fishing, gathering berries and medicine, and learning, using, and passing on traditional knowledge and language. The amount of time that youth are able to spend on the land is declining (Berkes & Jolly, 2001; Ford, et al., 2006).
Leadership	Leaders have the unique role of not only having the vision and insight to what would be best for the community, but also how to achieve it, by engaging a breadth of skills. "Understanding how to organize links between relatively autonomous but interdependent actors and actor groups at multiple levels is crucial" (P. Olsson, et al., 2007, p. 30). Effective leadership can bring together all of the interests of local people to serve the greater community (C. Olsson, Bond, Burns, Vella-Brodrick, & Sawyer, 2003).
Ability to make change	Resilience has been viewed as the ability to make change through agency and action-oriented processes whereby an individual seeks an endpoint and follows a process to achieve it (Connor & Davidson, 2003; Rutter, 1987). In some indigenous communities, having agency is included in interpretations of resilience. For example, the lived experience of a Mohawk perspective of resilience emphasizes the importance of having collective agency to resist social and cultural threats, and threats to the land (Kirmayer, et al., 2011). In other Canadian indigenous communities, agency can protect against threats to the community such as suicide. One Northern community, recognizing suicide was a pervasive and devastating problem, acted together to stop it and support community resilience (Kral & Idlout, 2009). To do this, they removed the ability for community members to commit suicide and developed measures to avoid it. Community members determined that feeling disconnected from one's culture was connected to wanting to kill oneself. In response, they developed youth-elder culture camps to help youth learn about their culture and traditions by connecting with elders (Kral & Idlout, 2009).

Theme	Description
Feeling part of community	Particularly for young people, the feeling of being a part of a community can support an individual in creating meaning of their lives and experience that gives them a motivation to be strong in the face of change. "Group affiliation can help a young person reconceptualize personal difficulty as a collective struggle. In so doing, ideological commitment and resistance against oppression may foster positive health outcomes." (Wexler, et al., 2009, p. 566).
Characteristics: optimism, self- esteem, & self- reliance	Characteristics such as optimism and self-esteem are personality traits that can foster the physical health of a person (B. Smith, et al., 2008) and have been used in both non-indigenous (Rutter, 1985) and indigenous measures of resilience (Andersson & Ledogar, 2008). Optimism and self-esteem have been included as measures in the CD-RISC resilience scale along with the additional measure self-reliance (Connor & Davidson, 2003), which has also been included in indigenous descriptions of resilience. For example, the Métis value independence and self-reliance. "Doing things their own way is a way of expressing their distinct identity enabling the Métis to adapt to many of the challenges they have faced. With this self-reliance, the Métis have also been able to build strengths in many different arenas" (Kirmayer, et al., 2011, p. 87).
Emotions	Positive emotions can support good outcomes for an individual and honoring the place of emotions is important for respecting how an indigenous woman makes sense of her world. In health research, positive emotions are a personality trait that can support an individual's physical well-being (B. Smith, et al., 2008). They help regulate negative emotions in an individual that can reduce a person's ability to adapt to change (Tugade & Fredrickson, 2004). In reflecting on her resilience as an urban aboriginal woman, Spakwus describes focusing on the love that she received as a force that allowed her to see and focus on her strengths. "I was given a lot of like crap and shit and shame and guilt, that was put on me, but I was given a lot of love and a lot of sincerity, sincere love" (Scarpino, 2009, p. 47). Furthermore, having pride in one's cultural heritage and knowledge can improve resilience by reducing stress and the tendency to use alcohol and drugs (Austin, 2004). Moreover, for an indigenous woman, honoring the power of her feelings and importance of her emotional health is intimately important to her resilience. Positive emotions like love from one's family and pride in one's culture might support the resilience of a person and community.
Vision	 support the resilience of a person and community. Vision can serve as a motivating goal and direction, bringing unity within a person or community to observe and use a challenging circumstance as an opportunity to serve it. People will draw on traditional teachings to overcome challenge and "map possibilities for adaptation and a positive vision of their identity and future" (Kirmayer, et al., 2011, p. 85). For some indigenous women, developing a vision recognizes one's strengths among challenge and creates a goal of where they wish to be as people. To develop a vision, people draw on the teachings of their ancestors with the Medicine Wheel and the interconnected dependence between "individual, family, community, Nations, the natural world, and the Creator in the form of circles within circles" (Scarpino, 2009, p. 41). The greater experience and wisdom that they have of this process and of their own journeys, "the more likely [they are] to be able to move toward [their] vision or goal" (Scarpino, 2009, p. 41). A vision can help articulate and represent a community. It can support community learning on the perspectives of others (Evans et al., 2006).

Traditional knowledge is defined as a living body of knowledge. The term "living" implicated four crucial pieces: traditional knowledge is learned from lived experience; is the transmission of the lived experience of ancestors, involves hands-on transmission from one person to another, and is itself a continuously changing and growing body of knowledge (Berkes, 1999; Davidson-Hunt & Berkes, 2003; Turner, et al., 2003; Usher, 2000). Davidson-Hunt and Berkes (2003) describe this living body of knowledge as being passed through hands-on experience and learning with the land. Usher (2000, p. 185) describes it as built on the lived experience of people and is a body of "all types of knowledge about the environment derived from experience and traditions of a particular group of People". It provides access to the lived experiences and spiritual and survival wisdom of ancestors who have adapted to, survived, and found opportunity in life on the land (Turner, et al., 2003). For example, traditional knowledge will help Gwich'in find a herd of caribou, know how to kill and process an animal, and the appropriate ways to honor and respect it (Gwich'in Renewable Resource Board, 1997).

Alongside the suggestion that traditional knowledge is vital for survival and adaptation of northern communities, there is concern that younger generations are not receiving this knowledge.

Many young indigenous people do not know how to identify some of the most common traditional foods of their grandparents' generation or how to survive in places in which their ancestors have lived for hundreds of years. (Turner, et al., 2008, p. 11)

As described in Section 2.2.2, this concern is echoed in the work of Ford et al. (2006). They suggest that this broken transmission of knowledge is making northern indigenous communities vulnerable to life on the land and the threats

of climate change. While a subject of concern, this emerging difference in knowledge between youth and elders could also mean an opportunity for creative ways of coming together as a community, working through such a challenge, and exercising resilience (Kral & Idlout, 2009).

Traditional language.

For Aboriginal communities, traditional language is intrinsically tied to traditional knowledge (Turner, et al., 2008). In Aklavik, these traditional Aboriginal languages are Gwich'in and Inuvialuktun. They create cultural depth to traditional knowledge by connecting people to the words of their ancestors and communicating details of knowledge, culture, and place (Gwich'in Renewable Resource Board, 1997). Being able to speak the language that comes from the time when Gwich'in and Inuvialuit people lived entirely off the land creates an anchor to the knowledge that guided ancestors through their lives. Only traditional languages transmit very precise detail of location, use, the relation of one thing to the next, cultural values, and spiritual context (Gwich'in Renewable Resource Board, 1997). Furthermore, language is very relative to life on the land. "Our language is very descriptive. It tells us things like how one thing might be related to another. Or the way that things look like on the land" (Dan Green in Davidson-Hunt & Berkes, 2003). Furthermore, it can describe a mental image of a landscape and its history in a culture that does not use maps (Davidson-Hunt & Berkes, 2003). However, traditional language not only has direct functional purpose, it also has importance in the development of relationships and communication that support emotional well-being in an Aboriginal community.

Traditional language not only ties people to their ancestors, but also brings together and strengthens bonds between living community members. Being able to speak one's traditional language allows younger generations to communicate with and learn from their elders (Ford, et al., 2006). Furthermore, use of traditional language in a community has been correlated with reduced suicide (Chandler & Lalonde, 1998). Yet, once again, from various government policies and cultural shifts, younger generations are not learning their traditional languages as they were in the past, having it replaced by English in everyday life for many communities (Turner, et al., 2008), which could increase the risk of suicide and threaten both the transmission of traditional knowledge and culture.

Spirituality.

Spirituality can be a source of great joy and strength for indigenous people.However, the history of the Christian Church in the area has changed the face of local spirituality. It acts as a connection for people with the Creator, within oneself and to others (Scarpino, 2007), creating a feeling of purpose and meaning. Spirituality connects individuals to their ancestors and helps them overcome even very difficult challenges. "Traditional spirituality [is] key [for] appropriate responses to historical trauma and unresolved historical grief" (Fleming & Ledogar, 2008, p. 48) in facing trauma from the past, either personally or for one's family or ancestors. Tragically, traditional Aboriginal spirituality was oppressed in residential schools and Christian spirituality was imposed on the students (Fournier & Crey, 1997). Despite these experiences, spirituality remains a vital part of life in the Arctic and

Aklavik and other northern communities, and they have interwoven traditional and Christian spirituality in their practices.

In Aklavik, as with many other Arctic communities, spirituality has an interesting face, drawing dually on the presence of three Christian churches, the Anglican, Catholic, and Baptist (Anglican Church of Canada, 2008), as well as on traditional spiritual teachings of ancestors. Moreover, across the Arctic, spirituality is an important part of life, even though the face of it may appear differently than in the past.

Many northern people continue their firmly embedded tradition of relating to their ancestors as well as to a strong spiritual world. While most have shifted from the understanding of the ... life spirit, to the concept that the Holy Spirit passes among living things, there is still a strong respect for life and for those who have lived before. (Hild & Stordahl, 2004, p. 158)

Spirituality connects people to the land and the animals that provide sustenance to their families (Gwich'in Renewable Resource Board, 1997). Gwich'in people are people of the caribou and their spirituality revolves much around the connections between humans and caribou. This spiritual connection has supported the Gwich'in people for centuries (Gwich'in Renewable Resource Board, 1997). Spirituality provides hope through healing; supports relationships to the land, animals, oneself, other people, and the Creator; and is an interesting point of discussion in a community of suggested cultural transformations and one that faces past grief, current challenges, and future uncertainty.

2.2.3 The changes different generations consider important for the community and environment.

In this section, I look at the ability to reflect on change as a way of learning about resilience. This is the third objective in my research. There are three reasons for addressing this. First, I wanted to understand whether different generations reflected on change. Second, asking different generations what changes have been positive and negative in the past, and what they see the community facing in the future, allows us to reflect on what changes the community is focusing on in relation to what changes researchers are focusing on. Finally, I wanted to consider the suggestion that broad cultural differences between generations (for example Ford, et al., 2006) provides a context for comparing what different generations are thinking of when asked to describe positive or negative changes in relation to the community and land.

Reflection is seen in resilience studies at both the level of the individual and community. For a person, self-reflection can be a difficult process of facing fears and negative feelings, in order to not run from them, but to face them through talking to oneself (Scarpino, 2009). For example, "resilience is not the cheerful disregard of one's difficult and traumatic life experiences; neither is it the naïve discounting of life's pains. It is, rather, the ability to bear up in spite of these ordeals" (Saleebey, 2002, p. 11). This is similar when reflecting on changes on the land. The process of reflecting on experience in order to make change in one's approach is also an important part of adaptive management of natural resources, which is advocated for resilience. It allows community members and decision makers to reflect on previous management practices and improve or change their practices in the

future (Wollenburg, et al., 2000). The process of reflecting can also be important for resilient land management of indigenous people that draws on more ancient collective memory (Berkes, 2007). Reflecting on past experiences can be a personally challenging and time consuming process, but will help an individual or community overcome challenge and adapt to change.

In the Arctic, the impacts of climate change could be great. It is expected that climate change will alter the natural environment (Chapin, et al., 2004; McCarthy, et al., 2005). It could change hunting routes and practices (Fox 2002) as well as changing animal species and caribou populations (Kruse, et al., 1998). Climate change could damage infrastructure from flooding and permafrost melt (Couture, Robinson, Burgess, & Solomon, 2002). As well, it could increase hazards for traveling and hunting on the land (Ford, et al., 2006). These concerns have spurred researchers to raise the importance of indigenous adaptation (Duerden, 2004; Nuttall, 2001) and to investigate it (Berkes & Jolly, 2001; Ford, et al., 2006). While indigenous people observe climate change (Krupnik & Jolly, 2002), and these observations have caused concern (Bell, Ayles, & Fast, 2002), I was curious to see, if asked about their resilience as a community, whether community members in Aklavik would speak to climate change (as one example) or if there would be other changes that would be of more pressing concern to them.

Chapter Three: Methodology and Methods

This chapter is divided into two major sections. First, I present the work of scholars who determined the approach I used in this research. I then outline in further detail the methods used to collect and analyze the data.

3.1 Approach and Methodological Guidance

The first major influences to the approach that I have used in this research were Israel et al. (1998), Strand (2003), and Minkler (2005) who work with what they refer to as community based research. Additional influences on my approach were the writings of the indigenous scholars Smith (1999) and Rigney (1999) who promote the decolonization of research approaches and epistemologies with indigenous communities. In this section, I describe how each of these scholars influenced the approach that I used in my research.

3.1.1 Community-based research.

When I was searching for an approach with which to serve the research objectives, I was drawn to the work of Israel et al. (1998), Minkler (2005), and Strand (2003) that is focused on engagement with and accountability to communities. The community based research approach that they use is guided by foundational principles and pillars: Recognizing community as a unit of identity;
 Building on strengths and resources within the community;
 Facilitating collaborative partnerships in all phases of the research;
 Integrating knowledge and action for mutual benefit of all partners;
 Promoting a co-learning and empowering process that attends to social inequalities;
 Involving a cyclical and iterative process;
 Addressing health from both positive and ecological perspectives;
 Disseminating findings and knowledge gained to all partners (Israel, et al., 1998).

More recently, these principals have been consolidated into three pillars: collaboration, the creation and dissemination of knowledge, and community based research as social change (Strand, 2003). This approach works with the perspectives and local knowledge of participants to jointly design research to which the study community will relate (Israel, et al., 1998).

Israel et al. (1998) describe community based research as leaning on the two paradigms of critical theory and constructivism. Within critical theory and constructivism, the construction of reality is understood to be based on social, political, economic, cultural and ethnic factors through time and that researcher(s) and participants engage in open and malleable dialogue (Guba & Lincoln, 1989, 1994). Community based research tends to be used for critically examining dominant paradigms and for being flexible to alternative ways of looking at a research topic.

This approach has often been focused on community empowerment (Minkler, 2005). Frequently, the intention of researchers using this approach is to work closely with communities, listening to elders and community members to create research that does not just serve the needs of the researcher or funders, but also the community. The origins of this approach can be traced to the action research school and with particular critical grounding in the work of

Paulo Friere in which communities overcame community oppression (Minkler, 2005, p. ii4). "The collaborative nature of the methodology working with and listening to communities is described as provid[ing] a welcome contrast to more traditional top-down research approaches" (Minkler, 2005, p. ii4). The empowerment of community through research puts additional requirements on the researcher.

Community based research requires that a researchers let go of some control in the research. This can be both a source of challenge or opportunity. It requires that researchers relinquish research goals, process, and preconceptions of the community or culture, but it can also be an opportunity for creativity and community empowerment. "If we are serious about community control and research doing no harm, then we are going to find ourselves faced with situations where we have to compromise academic expectations" (Pyett, Waples-Crowe, & van der Sterren, 2008, p. 182). The researcher must allow the research to take on a life of its own.

For academics used to being the expert, community-based research is challenging because it recognizes multiple sources of expertise: the abstract, generalized knowledge of the academic, the detailed, experiential, hands-on knowledge of the community member, and the fresh perspective that is brought by students, unencumbered by community traditions or academic canons (Strand, 2003, p. 79).

Researchers must also be continuously reflective of their involvement and biases in the process, acknowledging that one can never be "truly competent in another's culture" (Minkler 2005:ii4), but must have the humility to "continually engage in self-reflection and self-critique as lifelong learners and [be] reflective" (Tervalon & Murray-Garcia, 1998, p. 118).

3.1.2 Inspiration from indigenous scholars on research methods.

The concept of research has had very negative connotations for indigenous people worldwide for generations. When I first read the following quotation in Smith (1999), I remember feeling shame about research and anger about the practices of researchers.

[T]he term research is inextricably linked to European imperialism and colonialism. Research is probably one of the dirtiest words in the indigenous world's vocabulary. When mentioned in many indigenous contexts, it stirs up silence, it conjures up bad memories, it raises a smile that is knowing and distrustful... it appalls us that the West can desire, extract and claim ownership of our ways of knowing, our imagery, the things we create and produce, and then simultaneously reject the people who created and developed those ideas and seek to deny them opportunities to be creators of their own culture and own nations... The collective memory of imperialism has been perpetuated through the ways in which knowledge about indigenous peoples was collected, classified, and then represented in various ways back to the West, and through the eyes of the West, back to those who have been colonized. (L. Smith, 1999, p. 1).

I became aware of the negative impact that some research has had on communities and wanted to avoid following in those footsteps. I was inspired in my project by the work of indigenous scholars Smith (1999) and Rigney (1999) who discuss the need to decolonize research approaches.

Smith (1999) and Rigney (1999), indigenous scholars respectively

from Aotearoa (New Zealand) and Australia, illuminate colonial underpinnings to research and outline guidelines to decolonizing them. First, research with indigenous communities should be guided by the lived experience of an aboriginal researcher (Rigney, 1999). Furthermore, the research must be emancipatory, have political integrity, and privilege indigenous voices (Rigney, 1999). Researchers must respond with integrity to the following questions: "*Whose research is this? Who owns it? Whose* interests does it serve? Who will benefit from it? Who has designed its questions and framed its scope? Who will carry it out? Who will write it up? How will the results be disseminated?" (L. Smith, 1999, p. 10). Being attentive to each of these guidelines can support the decolonization of one's research purpose, process, and findings.

Qualitative methods can be a part of the decolonization of research with indigenous people. An example of a study that was operated with the purpose of decolonizing research methods to study of indigenous resilience is Scarpino (2007). Working with indigenous women in western Canada, Scarpino used qualitative semi-structured interviews to develop an indigenous conceptualization of resilience. The precept was that qualitative interview methods would allow the women to create their own narrative and epistemology and choose to focus on positive or negative experiences that they considered to exemplify their resilience.

3.1.3 How I incorporated the methodological guidance in my research approach.

From my research objectives, I wanted to be able to describe a local indigenous way of understanding, measuring, or describing resilience. To do this, I incorporated into my approach principles primarily from Israel et al. (1998), Minkler (2005), Smith (1999), and Rigney (1999). These were interwoven throughout the research.

Developing a local indigenous conceptualization of resilience weaves a critical approach (Minkler 2005) to exploring an already well-researched area. However, as has been described earlier in this manuscript, indigenous conceptualizations are needed and emerging in resilience research. Furthermore, in other examples (for example HeavyRunner and Marshall 2003; Scarpino 2007; Kirmayer et al. 2011) the conceptualizations of resilience often add new perspectives to the concepts of resilience. My research provided an opportunity to explore Inuvialuit and Gwich'in conceptualizations of this process.

I tried to incorporate as many of the principles outlined by Israel et al. (1998) that guide a community based research approach (Section 3.1.1). First, I recognized the "community" of Aklavik as the common unit of identity among participants. Everyone who participated in the research had to live in Aklavik. Second, I tried to build on the resources and ideas that were already in the community. This included a local research team (Velma Illasiak and Bonnie Koe), one of whom (Velma) was already focusing on resilience in the community school and the other (Bonnie) was a youth who understood firsthand the experience of young people in her community.

Third, I put significant effort to developing and maintaining collaborative partnerships throughout the phases of the research. Although from the time that I was first in Aklavik, I worked with the local research team of Velma and Bonnie, throughout the process local people were involved in guiding the research and providing critiques on it. I visited the community on three occasions over a period of two years, spending approximately four months there. I also worked closely with the local Gwich'in and Inuvialuit organizations. These provided feedback on the research design and results, as well as how the research was being conducted. I lived with a family in town over this period and participated in local activities. Doing so helped me network. Furthermore, I discussed the research on different occasions with the

executive director of the Gwich'in Council International (Bridget Laroque), the coordinators of the Ehdiitat Renewable Resource Council (initially, Jerome Gordon and later Robert Buckle) and members of that council. Throughout the research, I discussed the research and its findings with the research team. This process is further described in section 3.2.

Fourth, I tried to integrate knowledge and action that would benefit all partners. Working with Velma, who was the principal of the community school and was already incorporating resilience research in the delivery of that school's curriculum, I knew that lessons from the research would potentially be used in the community. Furthermore, I tried to use research funds as locally as possible. For example, when I held a community meeting, I rented the kindergarten classroom to pay for the kindergarten graduation at the end of the year and had youth prepare the feast for the meeting at the school. As well, prior to starting the research, I met with the Ehdiitat Renewable Resource Council to ask them how the research could best benefit the community. In response, they wanted to have a bigger emphasis on youth in the research. In addition, they wanted a young person to be hired as a research assistant. It was from this request that Bonnie Koe became a part of the research team and we could target the research to build upon the skills of local people and provide knowledge to the community that would be useful and beneficial to everyone.

Fifth, I wanted to promote learning among all participants, give them an opportunity to feel empowered by the research process (promoting a colearning and empowering process that attends to social inequalities), and would leave people feeling good about themselves and their lives (Israel et al. 1998). The research process was iterative in that I discussed research findings

and their specific interview data with participants. Some participants said that this was the first time that they had ever seen results of projects that they were a part of after an interview had finished. Afterwards, some participants described how it was meaningful to them to see how they had dealt with challenges in their lives and had helped others to do the same as opposed to just focusing on what had challenged them in their lives.

Sixth, I tried to have a cyclical and iterative process to the research in order for it to be based on community needs and perspectives. For example, when my supervisor and I had initially designed the research, one focus group was to be included to validate the questions asked in a pre-developed questionnaire for the semi-structured interviews. However, when the local research team was formed and in discussion with community members, it became quickly evident that the research would need to have a substantial qualitative component in order to better reflect the lived experience of participants (such as was described by Scarpino (2007)) and give participants the opportunity to express their own narrative. Subsequently, in addition to the questionnaires two focus groups were held, and nine open-ended interviews were carried out. During these open-ended interviews, new ideas emerged that were not covered in the semi-structured interviews previously and added unique elements to the local conceptualization and understanding of resilience.

Seventh, I tried to design the research to look at resilience holistically. This meant understanding resilience in relation to a process between community members, in relation to oneself, in relation to the land, and spiritually. This holistic understanding of resilience is crucial to it representing the experience of indigenous people (Scarpino 2007). To look at things

holistically, I tried to have a variety of research methods, and ones that would allow for different perspectives to be expressed.

Finally, particular care was given to the dissemination of the research findings and the developed knowledge to all research partners. Preliminary results were returned to the community in March 2011 and final results were returned in June 2011. A more detailed presentation of this process is described in Section 3.4.

3.2 Local Research Planning

My involvement in the research planning began when I first visited Aklavik to attend a meeting in March 2009 with GCI Executive Director, Bridget Laroque, and present the initial research plans. At this meeting I also met Jerome Gordon who helped guide the project during my data collection phase. After this meeting, I returned to Edmonton to work on further project planning with my supervisor before returning to Aklavik for fieldwork from August to November 2009. During this period we developed the research objectives and the questionnaire. As well, we applied for and received ethics approval from the University of Alberta and a research license from the Aurora Research Institute.

When I returned to Aklavik in August 2009, my first steps were to receive local feedback on the research plan and find a local research team. First, I met with Bridget Laroque, the Aklavik Community Corporation (ACC) and the Ehdiitat Gwich'in Council separately for feedback on the research plans. I put up small posters on the project at each of the local stores and

public announcement boards, and made an announcement on the local radio, to recruit a research team.

I selected the local research team, Velma and Bonnie, based on their common interest in the research topic. They were crucial in adapting the research to the community. They provided feedback on the research plans and together we tailored the research around their recommendations. We regularly had team meetings (generally twice a week) to make sure that everything was going smoothly, if there was anything that needed to be adapted in the process, and if there were ways we could better support each other. We began the data collection with the elders' focus group. From watching the positive discussion that occurred among the elders, Bonnie suggested that we also have a youth focus group prior to conducting the interviews. She felt that it would give youth the chance to better understand and develop their perspectives on resilience. Furthermore, we decided that based on our ages and relationship in the community, Bonnie would interview youth, I would interview the adults, and Velma would interview the elders.

3.3 Data Collection Methods and Handling

In this section, I describe the methods used for collecting the data. I will first describe the mixed-methods approach, followed by the methods used: field notes, focus groups, individual semi-structured interviews, and unstructured interviews.

3.3.1 A brief overview of mixed-methods data collection.

Community-based research is flexible in terms of what methods can be used

for data collection (Israel, et al., 1998). However, a mixed methods approach is often most common and useful (Minkler, 2005). Specific research methods are determined by the purpose of the study, how the information is to be used, the context and setting, the theoretical perspectives including "local" theory, the applicability of measurement tools, and the input of community participants (Israel, et al., 1998). Often research objectives and aims cannot be met by one method alone, and different data can serve the same objective or different objectives (Brannen, 2004) and can be converged (Creswell, 2009). This is often the case with community-based research (Minkler, 2005). In this research, I used a mixed-methods approach of observations, focus groups, semi-structured interviews, and unstructured interviews.

3.3.2 Field notes and community participation.

Field notes can be source of data and opportunity for reflection by the researcher (Wolcott, 2005). The process of taking field notes allows the researcher to assess the questions: "*Am I making good use of this opportunity to learn what I set out to learn? Does what I have set out to learn, or to learn about, make good use of the opportunity presenting itself?*" (Wolcott, 2005, p. 83). Furthermore, it is important for the researcher to reflect on things not research related, such as "everyday courtesy and common sense" (Wolcott, 2005, p. 84), because these things can greatly impact the researcher's experience in the community and reception of the research by the community. Over the four months that I spent in Aklavik, I regularly took field notes in order to help me remember and reflect on the experiences, insights, and feelings that I was encountering in the community.

One significant aspect of my experience in Aklavik was staying with a local family. After about two weeks in town, I was invited to stay with a family. This allowed me to be in a real home, as opposed to a community hotel. Doing so enabled me to know more people by accompanying the family around town and visiting with people. I was able to understand a little more closely the day to day life of people in the community, both employed and unemployed, and the life of young people and their experience as young parents. Because the family helped me understand the relationships between elders and youth, as the young men of the family would hunt and fish for their elders, I could understand some of the finer details of life in a family. This family was very active on the land and they gave me the opportunity to accompany them on several outings such as fishing, hunting, and berry picking.

Beyond the immediate family that I was living with, I tried to involve myself in community events and activities. The most significant of these were attending church, being at community feasts, and crafting with women. Although I was unsure at first about attending church, because I am not Christian, I found that it was a wonderful way to meet people, and in time it would help me better understand what spirituality meant to people in the community. It was also a significant way for me to be invited to other activities such as youth getting together to play without alcohol, and women gathering to discuss the challenges that they had faced in life and other experiences. Community events such as feasts and Hallowe'en gave me the opportunity to get out, be silly, and have fun. People in Aklavik loved having fun and noticed when you were there joining them. It was a wonderful way to

see people gather, celebrate, and appreciate events that might seem small for an urban context but were important for the community.

Although I did not include much of what I wrote about these experiences in this research, one of the most important activities that I was a part of was walking around town with one young friend. We would walk for hours until my feet hurt too much, or I was too cold, and I would learn about a young person's experiences in town. I learned about some of the struggles that youth face, as well as their ways of coping. We would often encounter other young people who would walk with us, and the group would fluctuate in size as we walked through the town under bright stars.

On almost a daily basis, I recorded my experiences and thoughts in a field note journal and transferred them to my computer in a Microsoft Word file. The small connections with community members were important for me to remember my experiences, to feel connected to the community, and not to feel alone.

3.3.3 Focus groups with elders and youth.

Focus groups can be an approach for generating qualitative data that allows participants to jointly discuss their ideas around a topic. Guided by a moderator, or facilitator, the focus group allows the researcher to see how a group "collectively makes sense of a phenomenon and constructs meanings around it" (Bryman & Teevan, 2005, p. 194). Together, participants discuss and make sense of their perspectives by presenting their ideas and understanding those of others in the focus group.

The process of sharing ideas with and learning from other participants in a focus group can be an important starting point for individual interviews, both in familiarizing participants with a topic (Morgan, 1997) and providing information to either develop or validate an interview guide (Morgan, 1997; Rapley, 2004). The research support partners felt that the focus groups would be useful to familiarize youth and elders to the project and some of the ideas surrounding resilience, because resilience was not a topic that many people thought explicitly about.

How I carried out focus groups in the research.

I held two focus groups: one with elders (n=6) and one with youth (n=6). The first focus group was with elders and was held September 9th 2009 from 1-3 pm, followed by the youth focus group on September 15th 2009 from 4-6pm. Both focus groups were held in the library at the Moose Kerr School, where we had coffee, tea, juice, and cookies. During the focus groups we discussed the concept of resilience. The process with both focus groups was very similar, and we opened each by asking what resilience meant to each participant and what their life experience had been with the concept of resilience. We asked what made the community resilient to changes. We also asked the participants to describe what additional things would make the community resilient. During the elders' focus group the participants translated the meaning of "resilience" into Gwich'in and Inuvialuit. Each elder who attended the elder focus group received \$100 for participation and each youth who attended the youth focus group received \$50. Findings from focus groups are presented in Section 4.1.

3.3.4 Individual semi-structured interviews.

I was drawn to use the semi-structured interview because, while common to community-based research (Minkler, 2005), it can also be a useful tool when the research needs to incorporate the perspectives of participants.

Unfettered by any foundational philosophical commitments, the semistructured interview can accommodate a multiplicity of philosophical assumptions reflecting feminist, critical, phenomenological and neopositivist aims. (McIntosh, 2009, p. 63)

Additionally, the interview guide of the semi-structured interview provides both quantitative data, that can be quickly analyzed and compared, and qualitative data that can better reflect the lived experience of the individual (Bryman & Teevan, 2005). The semi-structured interview seemed to be a method that would make the research process sufficiently consistent despite several researchers, yet still be flexible enough to capture participant perspectives.

How I used semi-structured interviews in this research.

The semi-structured interviews followed an interview guide that had both closed and open-ended questions. My supervisor and I wanted to have the structured questions to collect comparable data between all of the interviewers and to allow for quick cross-comparison between generations. In the interview guide for this research, the open-ended questions in the semi-structured interviews were an organized list of questions in order to create some consistency between interviewers in terms of the kind of data that were sought. This can enhance the flexibility of the semi-structured interview by guiding the interview while still allowing the participant a lot of freedom in how to reply and expressing his or her lived experience (Bryman & Teevan, 2005).

The guide used for the semi-structured interviews was developed from a literature review, ideas from focus groups, and discussion with the local research partners. These questions were first written by my supervisor and me in Edmonton and fine-tuned with the research support partners. Questions to understand resilience were based on the resilience themes (Table 1 in Section 1.4.2 and Table 2 in Section 2.2.2).

The interview guide was designed in four sections. Section A obtained demographic data including gender, age, employment status, and education. Section B was designed to gather information on individual and community resilience perspectives and included questions such as: *"To you, what does it mean to be resilient? Could you please give me an example of this? What motivates you to be resilient?"* In Section C, the focus was on how community participants perceived past, present, and future changes in their community. Participants would describe changes that they considered to be important for themselves, their families, and their community, and describe how people coped with these changes and what lessons they learned from change. Finally, through both structured and semi-structured questions, Section D looked at what participants expected to see in the future and what they wished to see. Youth (n=9), adults (n=8), and elders (n=9) were interviewed using the guide.

3.3.5 Unstructured interviews.

To explore ideas that emerge in the course of the research process, unstructured interviews can be a useful data collection method and, when the same researcher conducts each of the interviews, can provide a certain level of consistency (Bryman & Teevan, 2005). They are a source of qualitative data and can provide rich, in-depth information (Creswell, 2009). Usually having a small number of approximately five guiding questions, the interviewer prompts the participant, but allows him or her to emphasize that which he or she considers important and to focus on his or her worldview (Bryman & Teevan, 2005).

How I used unstructured interviews in the research

The unstructured interviews provided the opportunity to explore the ideas of respect, love, spirituality, and patience with resilience in greater depth. I was the interviewer for all the interviews, and in total I conducted seven unstructured interviews on: respect with youth (n=2), respect with elders (n=2), and love, spirituality, and patience with elders (n=3). The interviews lasted from 15 minutes to two and a half hours and were held in a place of choice for the participant. Each participant was given either \$40 (for the respect interview) or \$100 (for the love, spirituality, and patience interview). At the beginning of each interview, I asked the question: *What does respect/love/spirituality/patience mean to you?*

3.3.5 Data recording: audio-recording, transcription, and data entry.

All of the interviews (individual and focus groups) were audio-recorded, transcribed, and stored in written documents. It is crucial for the research interview to be audio-recorded because information within the interview can be easily forgotten after the fact, particularly because the interviewer must be highly alert and involved during the interview process (Bryman & Teevan, 2005). Furthermore, transcribing the audio-recording into a written form allows the data and analysis to be transparent for evaluation by other researchers as well as usable by other researchers for purposes beyond the intention of the initial research (Bryman & Teevan, 2005). I transcribed all of the interviews (individual and focus group) between December 2009 and February 2010 and then in April 2011 for the interviews conducted in March 2011 into Microsoft Word document files. This was particularly important for me in this situation where the research support partners had interviewed the youth and elders, so I was able to familiarize myself with the interviews. The transcription files were organized by participant name or pseudonym (depending on permission of participant) and stored on a password protected computer. The quantitative data were entered into a Microsoft Excel file database and the names of participants were removed and replaced by numeric tags.

3.4 Criteria for Participants and Recruitment

Delineating a sample frame is essential for avoiding shallow empirical research (Gobo, 2004). Before starting the research my supervisor and I developed a sampling framework to evenly interview individuals across gender, age, employment status, and culture (Figure 2). The research team selected and contacted each participant based on the sampling framework.

Figure 2

Representation of the sampling framework. The matrix represents the different individuals who were sought after to interview in the research. It is organized so as each column reads as one participant. For example, the red highlighted column is for a youth who is Gwich'in, employed, and female.



3.5 Returning the Research: Dissemination and validation

Israel et al. (1998) and Minkler (2005) state that in community-based research, the community must be kept informed of results and that researcher(s) are accountable to the community. I returned to Aklavik in March 2011 for two weeks to return the research to the community, staying with the same family that I had in 2009. During this time, one of the research support partners and I met for an hour to reconnect and to reflect on the research findings. She helped me interpret some of the pieces that I was challenged with by the research regarding spirituality and emotion. As well, we discussed how the research finding might be applied to a resilience initiative that had emerged in the school since I had last visited in 2009. I returned all of the focus group and individual interview transcripts directly to participants. The transcript package that each person received included a letter thanking them for their involvement, the focus group and/or interview transcript, and a brief summary

of the preliminary results. Before returning the transcripts, I highlighted quotes from each participant that I might use in the research. When delivering the transcripts, I discussed any parts of the research or transcript that participants inquired about. I also explained that the participants were welcome to change or remove anything that they had in their transcript that they did not like.

The next stage of the research dissemination consisted of presenting the results to community leadership for feedback. On March 10th 2011, I presented the preliminary results of the research to the Aklavik RRC They asked me questions about what different perspectives youth and elders had, and I explained that I would send a final report to the Aklavik RRC in the coming months.

Subsequently, I presented the research to general community members at the Moose Kerr kindergarten classroom on March 16th 2011. This occurred at an evening meeting and community feast. I put up posters around the community to announce the feast and personally invited each participant. I rented the classroom as a fundraiser for the year-end kindergarten graduation. Three grade 12 youth ambassadors at Moose Kerr School prepared the feast of stew, bannock, vegetables and dip, a fruit platter, and apple crisp. Five community members attended the feast, of who four had been participants. I presented the results of the research to attendees with a visual presentation and discussion that lasted an hour and a half and was audio-recorded.

3.6 Data Analysis: Mixed-methods Approach

3.6.1 Qualitative content analysis.

Qualitative content analysis allows the researcher to analyze written, verbal, or visual communication through a variety of processes. It can be used with either quantitative or qualitative data and used either inductively or deductively (Eto & Kyngäs, 2008). Qualitative content analysis is a process that is used to describe themes that appear in the research inductively to generate theory or deductively to reflect on or critique pre-existing theory (Bryman & Teevan, 2005). Despite much of the opportunity of qualitative content analysis, there has been little documentation of the explicit processes used (Eto & Kyngäs, 2008).

Qualitative content analysis can both generate and reflect on theory through different processes. It can be both inductive and deductive to "develop universal statements containing the essential features of a phenomenon or those things that were always found to cause or lie behind the existence of a social occurrence" (Potter, 1996, p. 156). Furthermore, this kind of analysis of coded data can reveal many realities within one set of data (Lincoln & Guba, 1985) and "can contribute to the refinement and reformulation of existing theory and lead to the creation of new theory in overlooked areas" (Gilgun, 2005, p. 42).

How I used qualitative content analysis in this research.

In this research, I use a qualitative content analysis approach to understand how resilience is demonstrated and described by community members in Aklavik. When looking to reflect on theory, while still having the openness in the research to look at ideas, qualitative content analysis can be useful. In the content analysis of this research, I first reviewed the focus group and interview transcripts to organize material in codes (described in Section 3.7.3 below). With these codes I wanted to see if there were any additional ideas that could be generated about resilience in the community. Because the transcript data are both unstructured and semi-structured, I have some codes that are open, and some that came from pre-existing ideas. This meant that the content analysis has mixed data that I organized into first level codes that I labeled as "themes" (see Babbie, 2010).

3.6.2 Coding and the researcher.

Qualitative content analysis involves extensive coding, recoding, and memoing of data from which conclusions or theory can be drawn (Glaser & Strauss, 1967). Coding is a crucial stage that is a non-rigid and reflexive process whereby themes are identified, categorized, and then shared, discussed, and changed as necessary (Bryman & Teevan, 2005). The researcher will often open-code the data into general themes and then into increasingly specific categories of themes in coding sheets (Eto & Kyngäs, 2008). When looking to generate new ideas, the coded and categorized data can then be used for abstraction and formulating ideas. When looking to reflect on pre-existing literature, data are coded based on the content of themes present in the literature and used for abstraction or hypothesis testing (Eto & Kyngäs, 2008).

I reviewed the focus group and interview transcripts to understand meanings and a conceptualization of resilience. I coded them using opencoding (Babbie, 2010) into what I have labeled themes. With these first-level
themes from open-coding, I tried to find similarities and differences between them, and a higher level of coding that they could be organized into. Among all of the code themes I looked for a similar characteristic that would run between each of them. This is known as axial coding, where a more central theme among them is identified (Babbie, 2010). This led me to code the themes into two distinct faces of resilience that I have used to provide one explanation for intergenerational resilience.

The process of qualitative analysis relies on the researcher, and therefore care should be taken to ensure that the researcher has been attentive to his or her biases. While s/he is the most important instrument for data collection and analysis, the researcher also provides inherent bias to the process. Multiple levels of codes lead to multiple areas for researcher bias (Creswell, 2009). In the hope of overcoming these biases in this research, I shared the data codes and interrelations with my supervisor, and returned to community members for discussion, comment, and feedback.

3.6.3 Quantitative analysis: descriptive statistics.

As described earlier, this research was intended as a pilot study for a larger project that would generate a larger dataset from different communities in the Canadian North and permit the use of more sophisticated statistical analyses. In this research with Aklavik, however, the small sample size only permitted the use of only univariate and simple bivariate descriptive statistics (Fowler, 2002; Gobo, 2004). These could be used to create contingency tables and in that way be used in a mixed-methods analysis.

I generated contingency tables to compare the responses to questions between youth, adults and elders. Contingency tables are like a kaleidoscope for observing data at different angles and can be used as a set-up for further statistical analysis (Jelen & Alexander, 2005). The quantitative data were entered into a large spreadsheet based on the questions asked in the questionnaire. Data were then split into smaller data sets and into each generation (youth, adults, elders). The data were further divided into the different variables and bivariate contingency (pivot) tables were created by hand (Table 4, Section 4.3) to compare each with perceived resilience. Due to how participants responded the question that was used to understand their perceived resilience, these contingency tables are not presented in the results section because the results were inconclusive.

3.6.4 Comparing changes perceived by different generations (objective 3).

Reviewing the transcripts from Sections C and D of the interview guide, I coded the changes that different generations considered to be important to into themes for general changes. For example, if a person had said that the Mackenzie Valley Pipeline being developed was a change that they considered to be either bad or good, I coded this into "Oil and Gas Activity". I did this for every change described by participants in the interviews, and if someone did not describe a change I coded that as "Did not describe". These different general themes for changes are summarized in Tables 5 and 6 (sections 4.4 and 5.3). They are organized in order to compare what changes youth, adults, and elders were thinking of when asked about what has been bad or good for the community and what they anticipate in the future. The last column of the

table is a summary of how each participant wanted to see the future of their community in approximately 25 years. These desired futures were coded into themes that would represent the content of what participants were describing. For example, if a person indicated that they want for future generations to have their language and strong traditional skills like hunting, sewing, and knowledge of medicine, I coded this as "Tradition". These different codes were used to make general suggestions such as what each generation was mostly anticipating as good or bad for their community and how they would like the future to be for their community.

3.6.5 Mixed methods analysis: spiraling.

A mixed methods analysis approach can be a rigorous way to overlay different types of data together. "The combination of multiple methods, empirical materials, perspectives and observers ... adds rigor, breadth, and depth to any investigation" (Denzin & Lincoln, 2000, p. 4). More specifically, a procedure referred to as spiraling can be a useful approach to analyzing multiple types of data. "[Spiraling] is based on the assumption that one method does not fit all research needs and all types of data" (Mendlinger & Cwikel, 2008) and instead different data analyses are used together in a continuous motion. One type of data is used to complement another, and insights from one type of data are used to corroborate the other (Brannen, 2004). This occurs throughout the research process that brings together each of the kinds of data generated by the research (Rapley, 2004).

While I was in Aklavik, although I did not have written transcripts, I started thinking of codes for what I was hearing in interviews. I would meet

weekly with one research support partner to discuss the materials that I was collecting. For example, early on in the data collection I started hearing about how youth were disrespectful to elders. To better understand this idea, I would talk to her about it and together we considered whether this should be explored in the research and how. In my materials were also insights on spirituality. From discussion with Velma, I decided to conduct unstructured interviews on these emerging ideas.

3.7 Researcher Flexibility, Reflexivity, and Accountability

The researcher needs to be flexible and able to adapt the research to best serve both the community and the project objectives at any point in time (L. Smith, 1999; Wolcott, 2005). One strategy for the researcher to be reflexive is to be critical of his or her own methods (Holloway & Wheeler, 2009). Furthermore, "when [the researcher] refers back and critically examines [his or her] own assumptions and actions through being self-conscious and self-aware about [his or her] research process" (Holloway, 1997, p. 136). The following are examples of how I tried to be reflexive as a researcher.

First, I adapted the research process and some of the research focus based on community perspectives. Early on in the data collection, we conducted the elders' focus group. This was intended as not a central point of the research but as a means of comparing how the interview guide had been designed with how elders perceived resilience. However, after the focus group finished, Velma and Bonnie stated that this focus group provided richer data than expected on resilience and was a valuable process for elders to have participated in before the individual interviews. They suggested that we hold

the same focus group with youth. They felt that it would make youth more comfortable with the project and the idea of resilience, having heard the perspectives and experiences of other youth in the discussion. Adapting the research design, we included the youth focus group. This in turn generated more qualitative data on the conceptualization of resilience and provided another point of comparison between elders and youth. We would have both the focus group and interview data to provide comparisons between elders and youth.

Second, I decided to increase the exploration of the meaning of resilience. Participants seemed most excited to speak in greater depth about their perspectives of what made them resilient (for example, traditional knowledge, love, spirituality, and patience). In discussing these with one research support partner, we determined that they would be valuable to explore further in terms of incorporating more of the lived experiences of participants. In response, I shifted the research to include more in-depth qualitative inquiry in this area. The results and discussion of this shift in focus from a more quantitative understand of resilience to a more qualitative understanding (Section 4.2).

These examples demonstrate the iterative process of discussing the work with Velma and Bonnie, as well as elders. They also demonstrate the continuous reflection of how we could best carry out the research with community members and what kind of data would best reflect their lived experience.

A part of continuously shaping the research through discussions with my research support partners and elders was to aim for it to be transparent. In doing so, community members could evaluate what I was doing, similar to how transparency is important for evaluation of the research by other researchers (Bryman & Teevan, 2005).

Chapter Four: Results

In this chapter I present the results of the research. These results will later be interpreted and discussed in Chapter Five. I first outline the results of how resilience is defined and described by Gwich'in and Inuvialuit elders and youth. Following, I summarize the similarities and differences in the resilience of youth, adults, and elders. Finally, I present the results of what changes youth, adults, and elders considered to be negative or positive for the community and land.

4.1 How Resilience was Defined in Gwich'in and Inuvialuit Cultures

Gwich'in and Inuvialuit elders gave three translations of resilience to social and ecological change in their community. While elders from both cultures could not find an equivalent word to "resilience" in either Gwich'in or Inuvialuktun, Gwich'in elders translated resilience as "to be strong" (*Gihhàhtaii*) and Inuvialuit elders translated resilience as "to be ready" (*Itqannaiyaq*) and "to never give up" (*Gapinnailaq*).

4.2 How Elders and Youth Described Resilience

A part of looking at how resilience was conceptualized in Aklavik by elders and youth was to ask *what makes your community resilient to change in the community and on the land?* That which youth and elders described is summarized in Table 3. Youth and elders stated that food, values, culture, adaptability, character, traditional knowledge, traditional language, and the land all contribute to their resilience. Youth additionally spoke of not trying to control the future. Elders additionally included education, leadership, family, spirituality, trust, making change, knowing that resilience is inherent, being a

"do" person, and the fabric of the community in their descriptions.

Table 3

Summary of what youth and elders described as important to the resilience of their community to change in the community and on the land.

ient t the	Youth and Elders	Elders	Youth		
Responses to the question: What makes your community resilient to change in the community and on the land?	Values Adaptability Character Traditional knowledge Traditional language The land	Education Leadership Family Spirituality Trust Making change Inherent Being a "do" person Fabric of the community Emotion Food	Not trying to control the future		

4.3 Comparing Resilience Themes across Generations

The themes of the questions asked focused on different measures of resilience drawn from the previous literature review. In addition, a simple question was also asked, "Are you resilient?" With the exception of one participant, everyone responded that they were resilient when asked in the semi-structured interviews. This provided data that could not be used to look at potential relationships between themes (bivariate analysis) such as holding traditional knowledge and personal resilience, and rendered contingency tables with no clear patterns.

Responses to the quantitative questions (based on themes) showed some similarity across youth, adults, and elders. These are presented in Table 4. As anticipated in the literature review, spirituality, traditional knowledge, and traditional language had the greatest variation between generations, as well as post-secondary education and a feeling of support from the community. In Table 4, these have been highlighted in grey. In turn, this means that whether people think about the future, who they rely on in their lives, whether they are confident in their lives, whether they feel that they can make positive change in their community, the number of days spent on the land, emotional and financial support from family, whether they have close friends and feel supported by them, and whether they feel a part of the community, are all very similar between generations. While the visual observation of patterns in the quantitative data suggests that there could be differences in the resilience of generations, the qualitative data suggest that there were perhaps more similarities.

Table 4

Visual quantitative comparison of themes that were connected to resilience.
<i>Main differences between generations are highlighted in grey. Y</i> = <i>youth;</i>
A=adults; E=elders.

Themes	Response	Y	Α	Ε
	Women	5	4	6
Gender	Men	4	4	2
	Yes	6	5	5
Whether participants who think of the future	No	2	1	1
	No Response	1	2	2
	Yourself	2	3	3
Upon whom participants rely in their life	Others	1	2	0
	Both	6	3	5
	A little	0	0	0
	A lot	6	7	6
Life confidence described by participants	Somewhat	3	1	2
	Not at all	0	0	0
	Yes	4	8	6
Number of participants who feel that they can make positive change in their	-	5	0	1
community				1
		$\begin{array}{cccccccccccccccccccccccccccccccccccc$	-	8
Number of participants who describe themselves to be spiritual				0
				0
	Men 4 Yes 6 No 2 No Response 1 Yourself 2 Others 1 Both 6 A little 0 A little 0 A lot 6 Somewhat 3 Not at all 0 Yes 4 Maybe 5 No 0 Yes 2 No 4 Somewhat 3 Yes 2 No 4 Somewhat 3 Yes 0 No 9 Yes 3 No 6 0 days 1 1-5 days 5 5-10 days 0 Over 10 3 days 2 No 7 No Response 0 Gwichin 4 <td< td=""><td></td><td>5</td></td<>		5	
Number of participants who speak their traditional language	Yes C No No 2 No Response 1 Yourself 2 Others 1 Both 6 A little 0 ants A little 0 ants Yes 4 Maybe 5 No sitive change in their Yes 4 Maybe 5 No 0 stive change in their Yes 2 No 4 Somewhat 3 onal language Yes 2 Knowledge Yes 3 on the land 1-5 days 5 of days 1 1-5 days of ants Yes 2 of ants Yes 2 of ants Somewhat 3 of Allot 7 No ants Gwichin 4 Inuvialuit 5 Somewhat 2 A lot 7 </td <td>-</td> <td></td> <td>3</td>	-		3
		-	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	8
Number of participants who have Traditional Knowledge	-	_		0
		$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2	
				2
The number of days that participants spend on the land	-			1
The number of days that participants spend on the tand		0	1	1
		3	4	3
		2	6	6
Number of namioin auto with next secondamy education				0
Number of participants with post-secondary education				1
		-	-	
Number of participants who identify as Gwich'in or Inuvialuit				5
				3
		-		
Family emotional support for participants	-	-		1
	-		-	0
				7
				2
Family financial support for participants				2
		-		0
	0 days $1-5 days$ $1-5 days$ $0 ver 10$ $0 $0 ver$			4
Do participants have close friends?				7
				1
		-		1
Do participants feel supported by their friends?				2
				0
	A lot			5
Do participants feel a part of the community of Aklavik?	-	~		8
				0
				0
Do participants feel that they are supported by the community?		6	2	1
Do participantis jeer man mey are supported by the community:	Somewhat	1		3
	Bonne milat			4
		1	4	4
				4
Europour et et et et e en et e in european	A lot	4	5	
Employment status of participants in numbers	A lot Full-time	4 2	5 0	4

4.4 Changes Different Generations considered to be Negative and Positive for the Community and the Land

This section presents the data gathered in Sections C and D of the interview guide (see Section 3.6.3). The results of what different generations considered to be positive and negative changes for the community are summarized in Table 5. While there was some difference between generations in what changes they focused on, there was also similarity between generations.

From the material in Table 5, it is evident that there are similarities between what different generations described as negative and positive changes on the land and in the community. First, youth mostly described what I coded as recreation to be a positive change for the community, whereas adults mostly described both recreation and education, and elders mostly described education as well as land claims as positive. Second, almost unanimously, all three generations described alcohol as a negative change that has been in the community. Third, almost unanimously youth, adults, and elders did not find any changes that they considered to be positive. Fourth, youth and adults mostly described climate change as a negative change on the land. Fifth, there was a lot of variation between what different generations described as a change that they saw happening in the community in the future. The most common changes discussed were the passing of the Liquor Act in Aklavik (discussed by youth and adults); the pipeline being developed (discussed by youth and elders); people returning the land and traditions (by adults and elders); and the population of the community changing (by youth). Sixth, almost all youth, adults, and elders expressed concern for climate change and the pipeline/oil and gas development happening on the land. Finally, the

question that yielded the greatest unanimity across generations was that which asked how people wanted to see the future of their community for their children and grandchildren. The majority of people described their ideal future for the community to be one strong with tradition and time on the land.

Table 5

The changes that youth, adults, and elders described as positive and negative from the past and future for the community and land as well as their ideal futures.

		Past				Future			
		Change Comr	e in the nunity	Change on the Land		Change in the Community	Change on the Land	ldeal future	
Age Group	Participant #	Pos	Neg	Pos		Neg			
Youth									
	901								
	902								
	903								
	904 905				-				
	905								
	907								
	908								
	909								
Adults									
	910								
	911								
	912								
	913								
	914								
	915								
	916								
	917								
	_	_	_	_					_
Elders				_	_				
	918								
	919								
	920								
	921								
	922								
	923								
	924 925								
	925								
		Did not des						dership	
	Ani	Animal population change				(Community population change		
		Climate change Infrastructure				Spirituality Too high resource use			
		Alcohol				Focus in community on money			
		Liquor Act				Youth leaving community			
	Pipeline/in	ine/infrastructure/economic growth				Technology			
		Tradition				Community being together			
		Fur Trade Collapse				People dependent on social services			
		Education				Elders cared for			
		Garbage				Community staying in Aklavik			
	Land Claims Camps abandoned					Murder of loved one			
	Camps abandoned						Muluel		

4.5 Highlighted Themes

This section highlights some of the themes that emerged in the research. These themes focus on community members taking action and connecting as a way of understanding resilience in their community. Narrative examples from the research and quotations from interviews are used to describe these themes.

4.5.1 Taking action for the community.

The themes in this subsection focus on what the community must *do* as a way of understanding resilience. The following themes in order are: the effectiveness, role and future of leadership and taking action to remove social ills.

The effectiveness, role, and future of leadership.

During the interviews and focus groups, participants discussed both the need for effective leadership and its role in creating change. Leadership directly impacts on the ability of the community to reach its goals and optimal situation. "The community leadership is not as strong as they should be. We can move mountains if we work together" (Annie Buckle). As well, "once you have the leaders involved it is home free. We have or wish to get some things going in Aklavik, but it's very difficult without the leaders being on side." (Alex Illasiak). Anything is possible for the community, if leaders are effective.

From my experience of watching over the years, there are some leaders that has done so much for the community, so much within their life, and I find that very effective to me, I have seen change and there are some leaders that its hard to say they are leaders, because leaders lead you to positive things for everybody and grows, and there's some people in these roles that are not ready to be in that role, so they kinda can really put a damper on the goals of the community. (Anonymous adult)

Leadership can guide the community to reach its goals, while alternatively ineffective leadership can detract from this ability.

Personal interests and family ties can hinder the effectiveness of community leadership. It can pull leaders away from the vision of the community and towards personal needs. This is described as particularly visible in local council meetings, when many members are related to each other. "It is just family leadership. Too much family getting into different organizations. Leading as a family..." (Annie Buckle). Alex Illasiak attributes this to the fact that leaders are trying to keep their own families alive and well, but explains that it detracts from the focus of leadership.

As ethnic groups as a whole, they tend to keep their group alive. They tend to keep only their group alive. The Inuvialuit Community Corporation is serving itself, keeping itself alive...but, not doing much in the way of tending to the ills of individuals or groups in Aklavik (Alex Illasiak)

In order to be effective, leaders must work for the needs of the community, rather than personal or family interests.

There was a sense from community members that many leaders were not bringing visible and tangible change to the community, which leads community members to lose faith in their leadership. Nothing is happening, and I don't feel confident in our leaders. There's no forward movement, it's all just the same, year after year, and never ever gets any further. It's just the same. I just don't have any confidence in them. If I did, there would be something going on but there is nothing. We seem to be at a standstill (Michael Greenland)

The immobility of leadership seems ineffective to community members and they do not have confidence in their ability to create change in the community.

Alongside the feelings that leadership helps the community achieve goals and that current leadership seems ineffective, participants described a need to improve leadership in Aklavik by better involving youth and elders. This would involve having more community involvement in leadership and decision-making, the importance of elders, and improving the involvement and training of young leaders.

Our leadership, the community, I think they need a lot of support and a lot of help. I don't think our leaders don't depend on the elders that much for help, that's why a lot of time, they just try and take things, you know, they do things on their own and nothing is going to work out (Annie B. Gordon)

Furthermore, youth need to be involved in leadership. Community leaders need to both be role models to youth and welcome the involvement of youth in leadership. They need to teach and inspire the next generation to be strong and representative leaders for the well-being of their community and provide them the opportunity to succeed. "I think that all these educated young people can make a difference if leadership will give them a chance to put their foot in the door" (Annie Buckle). The focus in leadership needs to turn to increase the involvement of both elders and youth in the process.

Taking action to remove social ills.

From participants of all generations, there was a concern that social ills such as alcohol and gambling were negatively impacting on their community and that everyone needed to work together to solve it. However, the way that different people consider making such changes varied.

One way that people try to make change in their community is through petitions and lobbying community members to change the culture in the community. One anonymous adult tried to reduce gambling in the community by going door to door in her community and getting people to sign a petition that would remove another day of gambling from the almost nightly ritual of radio Bingo. Although this petition, she described, was not successful this time, it was considered to be the most appropriate initiative for making changes in the community.

Similar to the petition to reduce gambling in Aklavik, several participants described the need for a "Liquor Act" banning alcohol in the community to help deal with problems with alcohol. "Too many kids drunk, people beating each other up. Hurting all the families. Be good to ban the booze. For a change... Just seeing all the young kids drunk, is crazy" (Anonymous youth). Another youth spoke of enacting the "Liquor Act" that would ban alcohol in the community. The way she described doing this was through the community working together and taking action. To protect the community from alcohol, members needed to come together to create and enact a plan to ban alcohol.

4.5.2 Connecting to others, the land, spirituality, and emotion.

As a way of understanding resilience, the themes in this subsection focus on how the community needs to connect. The four major themes that emerged were coming together as a community, connecting to the land, spirituality as guidance, and emotion as a motivation.

Coming together as a community.

Being a part of a community that comes together and supports each other helps the community be strong and overcome challenges, both in the past and, a desired by community members, for the future. "[In the past] they share, they help one another ...Everybody just helped one another" (Annie B. Gordon). In the past, people would come together, sharing and helping each other. Elders described coming together as a significant memory for them when they were young and they felt that their community was strong and connected. Today, adults and youth describe the need to come together to bond people in the community and work towards common goals.

[Our community needs], more togetherness and [to be] more united. It's not really visibly see-able right now. There's a lot of political and family barriers, community barriers right now. (Bob Buckle)

Elders described being strong together as a memorable characteristic of their community in the past, and all generations described that having a community that was bonded and together as supporting the strength of the community. However, they also indicated that this was not what they were seeing and feeling in the community and that conscious efforts needed to be made to bring people together.

Connecting to the land.

Participants described that living off the land brought people together in the past because everyone was reliant on the land's resources both in terms of its bounty and variability. It had a powerful impact on how people related to each other in the past and community members stated that it is no longer like that today, to the detriment of the resilience of the community. "The community was closer knit in ... that all the ethnic groups were gatherers, dependent on local resources. That fact alone makes a closer knit community" (Alex Illasiak). The close connection to the land fostered the sharing of food and resources and also fostered a sense of community through helping each other. Yet the connection to the land is also described as a very spiritual one that can bring solace to people in times of personal need.

Youth, adults, and elders described finding solace when on the land and healing from challenges or trauma. Some young men described avoiding alcohol and social ills by going on the land. "To avoid [alcohol]. Go hunting, stay out on the land, get away from everybody" (Davie Edwards). Edward McLeod described being on the land as a place of peace where he could just be free. One anonymous young person in the community, not formally interviewed, described going on the land to avoid social ills and alcohol. One youth described going on the land as the first and only way that she was able to connect to her culture and ancestry, and heal from the challenges that she faced. For elders and adults, being on the land was their source of spirituality and healing from difficulty. The land gave people the ability to escape difficulty as well as find a place for healing and spirituality.

Spirituality as guidance.

Spirituality provided guidance to cope with changes or experiences on the land. One elder described climate change as something that could not be changed because it was greater than people, but said that she would pray in order to find hope and peace in the change. Alex Illasiak described how spirituality would help people find food and resources on the land because of a spiritual connection to the animals and environment. Furthermore community members found guidance in spirituality for other larger changes at the scale of the community or broader social problems.

To cope with social ills such as alcohol community members would often pray. All generations spoke of prayer in helping them cope with the alcohol in their community. One youth said "I just pray for those kids that they'll find their way through and I'll be praying for them." (Crystal Koe). One elder spoke about how prayer helped community members cope with the scary situations that alcohol brought to the community.

We see a lot of people getting poisoned or dying with, you know alcohol, you sort of get scared and it's the only thing to help it is praying about it. Of course we had to always depend on that and when we see a lot of people getting poisoned or dying with, you know alcohol, you sort of get scared and it's the only thing to help it is praying about it. (Annie B. Gordon)

Across generations, spirituality helped people find hope in circumstances that they might not know how else to face.

Spirituality also brought people together, reinforcing traditional values and creating a sense of community. "Spirituality enforces all the good traditional values that you hold. Sharing, caring, regard for your fellow man ...[it] reinforces all the positive values that they have" (Alex Illasiak). When one youth spoke of those that she shared a spiritual connection with, she described them as her family, although she was not related to them. As well, Crystal Koe described how even when she did not feel that she could directly help someone, she could pray for them, helping her feel close to those people and was helping them in some way. From my time spent in the community, the action of engaging in spirituality physically brought people together to pray, to be on the land, or even just to talk about life, cry, laugh, and have fun. As I was on my way to church one afternoon, a young man who was quite drunk approached me in the street and asked if I would pray for him. He said he felt too sad and ashamed to go to church himself, but that he hoped that there would be people praying for him in order for him to emerge from his sadness and addiction. Spirituality in the community brought people together to engage such cultural values as caring, sharing, forgiveness and respect.

Emotion as motivation.

While not all participants identified an emotion that motivated them to be resilient, some described emotions ranging from fear to pride and love that motivated them through life. For example, one youth, Edward McLeod indicated that pride motivates him to be resilient. Another participant also described the need for pride in the community. "One thing that I would like to see brought back is community pride" (Bob Buckle). While he did not explain how that might be approached, he emphasized the need for community pride. One anonymous adult described her love for fellow community members as motivating her drive to make change.

It is, what motivates me is not to make myself feel good or anything, to be helpful and especially the youth, to help the youth in any way, and to empower, to help them empower themselves ... I have love for everybody that everyone needs to succeed and in their way to feel good about themselves and I will be there to support in any way I can.

Patricia Koe spoke of love for her family as motivating her to be strong as a person: "I love for them". An elder described love as motivating them to be resilient as well. When asked if any emotion motivated him to be resilient, Richard Papik said "love, love for the people, love for the land. Love for the good Lord." As these participants indicated, positive emotions like love and pride are needed to help people be strong and create change in the community.

4.5.3 Differing interpretations of a traditional value between elders and youth participants.

When asked to describe the concept of respect, a traditional Gwich'in and Inuvialuit value, youth and elders had almost opposite interpretations of it. I had been continuously hearing in interviews with elders that present youth did not have respect. However, youth might both have and demonstrate respect, but the results suggest that how they define and demonstrate it differs from their elders.

In talking to elders, respect was described as something that is passed down from generation to generation and mostly involves youth demonstrating it to their elders. "Respect means fairly high regard for your fellow man. Respect normally travels from the younger to the older, but it goes both ways. High regard for your fellow man" (Alex Illasiak). They emphasized that respect was very strong in the past. When I was younger we had lots of respect for our elders. Working with animals and getting wood and stuff. The elders, especially our parents, they asked us to do something and we would just jump and do it... Respect was just passed down from generation to generation. (Anonymous elder)

In the past, respect was shown mostly from youth to elders through service and obedience, which was important for the social needs of living off the land.

For youth today, respect did not involve service and obedience to

others; instead it involved embracing the individuality of each person.

Respect was a reciprocated engagement of offering the freedom to each person

to be him or herself and that to give respect meant you could expect the same

in return.

[Respect] is an understanding from one another to how ever you are and how ever you want to be. That's respect to me ... I really believe that young people do have respect ... and like you hear the elders say that well these young people they don't have no respect these days. And you meet anyone on the street and they still have a heart, you know? They still want to be respected. They still want to be treated well. And obviously they still want to treat others well. But it is kind of like, I will give you respect if you give me respect. In a weird way, but that's how it works. I believe that nothing ever works out unless decisions are made upon respect and how people work together. And if you don't agree with how the other one does it, actually it just makes me mad when I talk about it. People never come to a conclusion where they are satisfied and both peaceful on each side until they realize and understand what the other person wants. (Anonymous youth, 2009)

For youth, respect involves understanding the needs and intentions of the other. It is expected to be demonstrated between each person, not just from youth to elders. To youth, respect is earned and reciprocated. "If you sit there and show someone the respect that they deserve, they will show it back" (Anonymous youth). Unlike their elders' interpretation of respect as obedience, youth described respect as a reciprocal agreement that came by a process of earning it.

4.5.4 Motivation of youth.

Alongside elders, youth are concerned about the transmission of traditional knowledge and language to future generations. In the focus groups, there was a common concern between elders and youth that the young people were not receiving traditional knowledge and language.

Before my dad died he said, he's really sorry for the kids that are growing up. He feels sorry for these young people coming up. He said they, you, you lived out on the land, you could survive out there, but these younger generation, if you take them out on the land and said, okay, we'll leave you there for one week, they wouldn't know what to do. Set up camp, they wouldn't know what to do. (Annie B. Gordon, *Elder*, 2009)

Similarly, youth were concerned about the increasing disappearance of their

traditional indigenous languages.

But what about language. That's gonna be a tough one ... its inevitable we're gonna lose our language one day. How are we going to cope with trying to bring back, right? See like, it's, its going fast, and fast and like every generation, like bet none of us in here could talk it. Know words, the odd word. And then the next generation would be more or less gone and all we'll have is the writing and they'll barely learn like, to keep it, like reading it, they'll barely understand or read it. And it will be just gone. (Michael Greenland)

This common concern, among elders and youth about the disappearance of

their language and knowledge was paralleled by their desire to learn traditional

skills and language.

I want to learn my language and that's what I want to pass on. Cause like, I met people from Nunavut and there's this little boy, just like 7 years old and he was speaking Inuktitut, I was surprised, because they still had their language, like, they use it very strong. (Edward McLeod)

However, despite their best intentions, youth feel frustration at their lack of

success in learning their language and developing traditional skills.

The way that youth learn their traditional language could be improved. Youth voiced two particular frustrations in the focus group with learning their language both from elders and in school. These insights could improve how youth to learn these pieces of their culture. The approach at the school to teach language was incomplete.

At the school here they don't even teach it. Like, they just like, show those kids to colour, and like just colour all the time, and we just learn the same words every year. Its pretty basic. (Miranda Kowana) When young people try to meet with elders to learn, they describe elders as being disinterested. "I want to do something, like learn the language, its like, they don't want to, like I asked, like an elder to teach me, and then they just wanted to play Bingo" (Miranda Kowana, *Youth*, 2009). Youth feel discouraged and disheartened when they are not successful at learning either in school or from the elders and it leaves them feeling as if it is not worth trying. They hear the concern that elders have that youth are not learning their traditional language or knowledge, but feel like they are not given the chance to.

Chapter Five: Discussion

5.1 Definitions of Resilience by Aklavik Elders

In Chapter One, I presented the first research question: *How is resilience* defined in Gwich'in and Inuvialuit cultures? The conceptualizations of resilience are a reflection of the people who depict them and their experiences and lives (Scarpino, 2009). For indigenous people, resilience has been met with controversy because it can frame people as "damaged goods". (HeavyRunner & Marshall, 2003, p. 2) The focus of resilience has often been on overcoming stress and trauma with more of a focus on risk, insinuating that indigenous people have been damaged through trauma (HeavyRunner & Marshall, 2003) and often focuses on adversity rather than strength (Scarpino, 2009). Yet, indigenous conceptualizations of resilience are described as working from the "inside out", seeing each person as "with promise" as opposed to at risk (HeavyRunner & Marshall, 2003). In turn, there has been a growing call for indigenous definitions of resilience because they are directly meaningful to indigenous communities (Kirmayer, et al., 2011). My research looked at Gwich'in and Inuvialuit translations of resilience to construct an understanding of it that was meaningful to community members in Aklavik.

Gwich'in elders described individual, community, and cultural strength as the root of resilience. Their translation "to be strong" was similar to other indigenous conceptualizations of resistance and revitalization and supports the argument for focusing on indigenous strength rather than adversity (Andersson & Ledogar, 2008; Scarpino, 2009). The Gwich'in translation parallels that of

Heavyrunner and Marshall (2003) (Section 2.2.1) ("strong will" and "strong mind"). However, in their translation of resilience as "to be strong" the Gwich'in elders did not include the explicit concept of strong "will" or strong "mind". During the focus group, elders gave examples of how they were strong as individuals in their faith and in spite of the pain and dislocation from residential school experiences. Furthermore, they gave examples of strength as a community against social ills such as alcoholism or abuse. To be strong in their culture and traditional knowledge enabled them to know and survive on the land. They gave examples of cultural strength such as reclaiming their school, passing on traditional language and knowledge, living with a positive attitude to life, and supporting each other through difficulty in the community. This interpretation of resilience as to be strong supports other work (HeavyRunner & Marshall, 2003; Kirmayer, et al., 2011) that suggest indigenous resilience is emancipator; a demonstration of strength rather than a process of overcoming adversity.

One aspect of being strong, as highlighted in the previous paragraph, was the act of coming together as a community and taking action collectively as a demonstration of strength rather than facing situations where people are vulnerable. This description is similar to that of Kirmayer et al. (2011) who conclude that indigenous lived experience is more about strength than vulnerability:

Rather than seeing themselves portrayed as more or less noble savages in popular media, or as vulnerable people who were simply duped and dispossessed of their lands and autonomy, this critical history appreciates the scale and scope of the challenges faced by indigenous people and sees their persistence despite great odds as clear evidence of individual and collective resilience (Kirmayer et al., 2011, p. 89). A common discourse about indigenous people is that they are somewhat noble but pitied people through the process of colonization (Kirmayer et al., 2011). This creates the potential view of them as vulnerable people. However, looking critically at the history of various indigenous communities in Canada, as Kirmayer et al. (2011) have done, one can see that indigenous people are quite the opposite. Indigenous communities across the country have been engaged in a process of resilience at the scale of the individual and community for generations.

An intriguing element of resilience that is emerging from the literature is the belief that every person is inherently resilient. This was echoed in the elders' focus group. According to the elders, community members inherently had the capacity to be strong in any circumstance; they just needed to know and trust it. From spending time in the community, I learned that youth would go on the land as a way of ensuring their physical and mental safety in difficult situations in their family or community. This ability to see what will help and heal oneself is what elders described as inherent. Despite the simplicity of saying that being strong must be acknowledged as inherent, it also delivers a potentially empowering message. This argument, as presented by elders in Aklavik, is similar to the argument of Richardson (2002) that resilience is neither developed nor is it best understood by measurement. Instead, it is always a part of a person and must be acknowledged. Furthermore, HeavyRunner and Marshall (2003) argue for the inherent nature of resilience. Resilience is the natural, human capacity to navigate life well. It is something every human being has — wisdom, common sense. It means coming to know how you think, who you are spiritually, where you come from, and where you are going. The key is learning how to utilize innate resilience, which is the birthright of every human being. It involves understanding our inner spirit and finding a sense of direction. (p. 4)

In order to be resilient, a person must know that they can inherently overcome anything. For youth to hear from their elders that they have the ability to face anything in life could be empowering in such circumstances as high indigenous youth suicide (Chandler & Lalonde, 1998) where youth might feel helpless. Some non-indigenous literature on resilience describes it as inherent (Richardson, 2002), however I did not encounter indigenous literature that shared this perspective that resilience is inherent. As well, I did encounter the perspective in other literature that stated that learning about resilience can be seen as the transmission of an empowering message from elders to youth. These were both expressed by elders in Aklavik. Moreover, in their review of the literature, HeavyRunner and Marshall (2003) emphasize how conventional understandings of resilience have looked at it as based on the presence or absence of external factors, indigenous resilience starts at the inside of a person and works out based on their inherent resilience. This understanding of inherent strength could be an opportunity for future research and local community programming.

In order to be able to cope with change, people must first know that they are capable of coping with anything. In such, the community has focused on raising awareness, particularly in young people, to their inherent capacity to cope with challenges faced in life. The Moose Kerr School started a resiliency and leadership program in 2010. The goal was for young people to be aware of

their resiliency, trust their capacities to cope, and learn about the resiliency of their peers. This was an opportunity for youth to explore their self-confidence and efficacy. It was designed to involve them in leadership activities around the school and community and giving them the chance to witness their ability to make change. Using a program to both raise awareness of their inherent strength as individuals and to develop skills for working together could be a culturally relevant way of supporting the resilience in the community using an interpretation of elders.

Inuvialuit elders drew on their experience from the land to translate resilience as "to be ready". According to their translation, people must be aware of both the present and future. When out on the land, people need to be prepared and ready for any unforeseen circumstance. Resilience in such circumstances meant that one needed to both plan ahead as well as be present in oneself on the land in order to be ready. The literature on social resilience to ecological changes speaks to this idea of preparation and readiness as a form of adaptability. Much attention has been given to forecasting what might come in the future in order to plan for, adapt to, or be ready for such changes (Folke, 2006). While such research has mostly emphasized scientific modeling as a way of predicting what might come in the future, it has also explored qualitative local knowledge using lived experience and intuition (Wollenburg, et al., 2000). Such lived experience and the experience of one's ancestors along with one's intuition is traditional ecological knowledge and has guided people in relating to the future for generations (Berkes, 1999; Gwich'in Renewable Resource Board, 1997; Houde, 2007) and has been attributed to

supporting the capacity of communities to adapt to social and ecological change (Ford, et al., 2006).

Using one's lived experience and intuition was crucial for elders to be ready for possible scenarios on the land, but while one needs to look a little bit into the future, being ready was equally about being present and aware of one's surroundings. People needed to know what to bring if they were to encounter a storm, or be stranded for weeks. A part of Inuvialuit understanding of resilience was drawn from experience on the land, similar to Inuit perspectives of resilience (Kirmayer, et al., 2011, p. 88) where "links to the land and the animals sustained human life and well-being, physically, socially, and spiritually".

The translation of resilience as "to be ready" was drawing on one's experience and collective knowledge to be both present the moment and be ready for the future. This was through using one's intuition to anticipate scenarios that could happen on the land while still being aware and present in the moment. In the guiding literature on indigenous conceptualizations of resilience in this thesis (Fleming & Ledogar, 2008; Kirmayer, et al., 2011; Scarpino, 2009), this balance of awareness in both the present and is not explicitly discussed. Scarpino (2007) does write of the importance of indigenous people working towards their desired futures, but this idea of balancing the present and future in "to be ready" is not included. For elders in Aklavik, resilience involved a certain readiness for what could come in the future, but just as much attention is given to being aware of a situation in the present in order to adapt to what one might encounter.

The last translation described resilience as resistance and endurance. This translation by Inuvialuit elders, to "never give up", was surrounded by a description of how aboriginal people are stubborn; they have faced numerous challenges, but always remained firm that they would never give up (Alex Illasiak 2009). Elders used examples of residential school to describe never giving up to a challenge. This use of resilience as never giving up was similar to the Mohawk conceptualization, which spoke to resisting exploitation of land and fighting for cultural rights as well as perseverance in the face of adversity (Kirmayer, et al., 2011). As well, elders used resilience as never giving up in a day-to-day application as always having to work (Sadie Whitbread 2011; Annie B. Gordon 2009), and in spite of the physical or mental challenge of it, that one had to keep working. To elders, this constant movement and work as a part of life was a positive and enjoyable part of life that they attributed to their resilience. To never give up was what kept people mentally and physically healthy. Elders described one part of this was that no one was ever bored and were physically fit and connected to each other, working together. To never give up was long term resistance and endurance, as well as a day to day process.

The conceptualization of resilience of to never give up speaks to how resilience is not just a snapshot in time, but is a long term process involving endurance. This could have possible negative or positive interpretations. On the one hand, seeing resilience as never giving up could be powerful and give hope to individuals over a time of extreme challenge. For example, elders in Aklavik considered this endurance as touching the more tragic pieces of their personal and collective history. In the social threats of suicide, drug and

alcohol abuse, (Chandler & Lalonde, 1998; Kral & Idlout, 2009) and threats to land and culture (Kirmayer, et al., 2011), this interpretation of resilience could be perhaps most valuable; despite all circumstances of challenge one must never individually or collectively give up. On the other hand, this interpretation of resilience as mental, physical, and spiritual endurance could be challenging because it could perpetuate the controversial idea of resilience as a response to risk (HeavyRunner and Marshall 2003) the vulnerability of indigenous people (Kirmayer et al. 2011). This possible interpretation goes against scholarship such as Scarpino (2009) and HeavyRunner and Marshall (2003) that call for changing this narrative.

I would be more inclined to focus on the first, because I see it as honouring the lived experience of elders. Furthermore, it delivers a message to younger generations of what their elders were able to achieve because they did not give up. It reads to me as an honest interpretation by elders in a generation that experienced great change and periods of struggle. I do not know how to rectify these potential concerns. However, I wonder if teaching young people of how their elders achieved personal and community gains by not giving up might deliver a more empowering message than a more adversarial interpretation of having to fight and endure struggle.

5.2 Understanding Resilience: Themes relevant to Indigenous Communities and How it has been Measured in other Research

Of the 18 questions asked of elders, adults and youth, there were both similarities and differences between generations. Those with the most observable difference that appeared between generations were traditional knowledge, traditional language, and spirituality.

5.2.1 Traditional knowledge.

While young people in Aklavik reported not having traditional knowledge, they expressed wanting to have it in their own lives so that they could pass it on to future generations. As presented in Section 4.2, Table 4, young people did not report having traditional knowledge to the same extent as their elders, or even the adults in the community. However, youth prioritized the importance of traditional knowledge for their futures. When asked how young people wanted to see the future for their community, they almost unanimously described wanting to have strong traditional skills in their community. This supports an observation that has emerged in other literature (Berkes & Jolly, 2001; Ford, et al., 2006; Pearce et al., 2009), where although youth are not receiving traditional knowledge, it is not from any lack of interest on their part.

The disjuncture between youth not having traditional knowledge but wanting it leads to certain questions of why this is the case and potential opportunities for community planning. Why are young people not able to receive this knowledge? If young people do not have traditional knowledge, what other knowledge might they have that they use in their lives that helps them cope with change? If young people have criticized the development of on the land programs and language classes to help transfer these skills, how can opportunities for youth be better created? When elders suggest that young people need to be better implicated in leadership (for example Annie Buckle 2009), and we can see examples of successful community-level planning for intervention and on the land learning (for example Kral & Idlout, 2009), perhaps this is an opportunity for elders and youth to be directly involved in

the planning and implementation of opportunities for knowledge transfer between generations.

5.2.2 Traditional language.

Traditional language was even more absent in the community than traditional knowledge, with only elders reporting being able to speak and understand their language. Once again, however, this absence was not from any lack of interest on the part of young people. In the focus group, youth fervently discussed their attempts to learn Gwich'in or Inuvialuktun and their admiration for peers in Nunavut who are able to fluently speak Inuktitut. However, they described feeling discouraged from the lack of interest from elders in their attempts. One youth would try to learn from elders, but said that they were only interested in playing Bingo. "I want to do something, like learn the language, its like, they don't want to. I asked an elder to teach me, and then they just wanted to play Bingo" (Miranda Kowana). Another youth stated his fear in losing the language.

But what about language. That's gonna be a tough one... its inevitable we're gonna lose our language one day. How are we going to cope with trying to bring back, right? See like, its, its going fast, and fast and like every generation, like bet none of us in here could talk it. Know words, the odd word. And then the next generation would be more or less gone and all we'll have is the writing and they'll barely learn like, to keep it, like reading it, they'll barely understand or read it. And it will be just gone. (Michael Greenland)

Youth are trying to learn their traditional languages in school and by speaking with elders and they are scared that the language will soon be extinct. Another youth spoke with admiration of the Inuit youth in Nunavut able to fluently speak Inuktitut. This challenge in learning one's language seemed to create a sense of futility among youth in trying, yet they had been trying and wanting

to. This challenge with language transmission was further described by an elder in an individual interview.

One elder (Sadie Whitbread), explained that broken transmission of language to youth was caused by a social shift in the role of parents and elders in the lives of young people. She said that in the past, it was mostly the elders who raised children, rather than children spending hours at school, creating a strong bond between elders and young people and transmitting knowledge, language and culture. She explained that, in the past, the parents of children were not actually the ones who raised children; parents who had more energy physically supported the family, whereas elders who had the wisdom and patience raised children. Sadie explained that now parents and even elders are mostly working outside of the home in wage labour and children are spending most of their time either in school or with their peers and spending far less time with their elders. This different social organization is breaking this cycle of transmitting knowledge and language to youth. Annie Buckle further explained that language is best taught to children while on the land, because the language comes from that context. However, as presented in Section 4.2, Table 4 and as described by elders in the focus group, young people are spending relatively little time on the land and in such could be missing another important opportunity to learn their language.

While research has documented the absence, and concern for the absence, of traditional language and knowledge (see Ford, et al., 2006; Pearce, et al., 2009), I have not encountered literature that highlighted the desire among young people to learn these pieces of their traditional culture. This strong expression of interest from youth could be seen as an opportunity for

Aklavik and future generations. First, it focuses on the fact that young people care about their culture and traditions. Young people wanted to learn Gwich'in and Inuvialuktun, but were discouraged from their experiences of being unsuccessful at learning either in school or directly from elders. Furthermore, many of these young people are parents themselves and are motivated for their children to learn and carry on their traditional language. This motivation needs to be recognized, harnessed and used as an opportunity to implicate young people in the development and implementation of teaching and learning traditional language in the community. Elders describe how critical it is for learning the traditional languages to spend time on the land (for example Annie Buckle), and youth describe how a language without context in the classroom seems ineffective for their learning. Perhaps this is an opportunity for young people to brainstorm and develop successful programs or strategies for passing on traditional language, as they describe witnessing in other Arctic communities in Canada. I wonder, are there additional ways to more effectively teach young people traditional language, when they cannot be on the land? Are there ways that young people can spend more time with elders, while still acknowledging the social constraints and availability due to fulltime work and other obligations?

5.2.3 Spirituality.

Similar to traditional knowledge and language, spirituality was reported by youth as not present in their lives, which was different from adults and elders. However, they described that going to church with elders or family members on occasion had symbolic value to them, but they did not practice religion or spirituality. Furthermore, while youth did not report being spiritual, some
described having spiritual experiences on the land that were influential on their lives. Throughout the research, I asked myself the question: is it that youth were rejecting spirituality, or that they just had not yet connected to it?

I suggest that young people were in fact leading or cultivating spiritual lives; a life connected with a greater sense of peace or to a god. Young people were going on the land to find peace, a peace that adults and elders were articulating as spiritual connection. "Spirituality is going out on the land ... and being quiet" (Gladys Edwards). For some youth participants, being on the land was where they described reconnecting to themselves and the environment. For young men, this was almost described as a place of solace away from the expectations and hazards of life in the community and where they could be themselves. One conversation in the youth focus group discussed how the land brought youth peace from the pressures of community life.

Velma: What do you enjoy about being on the land?
Youth A: Peace.
Youth B: Silence, but with a noise too. The silence away from all the modern things.
Youth A: Freedom
Youth B: The noise and the geese flying by all night. The loons going crazy.
Velma: So just being in awe of nature itself, right? You're just completely in nature and you're just how the Lord made it to be. We're just another animal on earth. (Youth focus group)

Furthermore, elders described that from their experience their spirituality was cultivated later in life. When I presented the work to the community, the elders said that young people were not *missing* spirituality, they just were not yet conscious of it in their lives. Perhaps this would suggest that spirituality in Aklavik was not as absent among youth as might be read in Table 4, but that the awareness of one's spirituality grows gradually through life.

5.2.4 Traditional knowledge and language: an opportunity to come together.

The challenge that youth face in learning traditional knowledge and language, alongside their interest to learn and the interest of adults and elders to teach them could be an opportunity for all generations to come together as a community (Section 4.4.2). Seeing a common interest between youth, adults and elders to both come together as a community as well as to improve the transmission of traditional language and knowledge, could be a strong opportunity to bring young people and elders together for a goal. It could also provide a chance to build the skills of young people for leadership that was a theme in Section 4.4.1. Young people could come together with elders to develop a strategy for transmitting traditional knowledge and language while developing their leadership skills.

5.2.5 Response similarities among youth, adults and elders to interview questions.

When looking at the responses to different questions asked in the interviews, I was expecting to see a greater difference between generations. This was because I had come into the research expecting to observe in the quantitative data some kind of intergenerational segregation (Ford, et al., 2006). However, aside from traditional knowledge, language, and spirituality, the remaining questions all had similar responses between youth, adults and elders. What might, if anything, this tell us about the resilience of different generations in Aklavik?

When I consider that almost every participant described him or herself as resilient and that there is great similarity between how each generation responded to the structured questions asked, I see two potential conclusions that can be drawn. First, youth, adults and elders approach life similarly and might have a similar approach to resilience. Second, the question that I used to gauge the resilience for each person was not an appropriate measure

The similar responses between generations to the questions used in this study could suggest that youth, adults, and elders have common approaches to life. In fact, the only differences in responses between generations were with traditional language, knowledge, and spirituality. While much attention has been given to traditional knowledge and language as markers of indigenous resilience (for example Chandler & Lalonde, 1998), they are maybe only one element in a far larger picture of resilience. When all of themes that were included in this research are examined together, generational differences seem to be smaller. This research did not examine, however, the relative weight of each of them as relating to resilience. While each theme could be seen as having an equal weight, perhaps in reality this is not the case. It could be plausible that even while gender and traditional language were looked at in this research as of equal standing, perhaps for indigenous resilience, traditional language is of greater significance. Doing so could be an opportunity for research: are there certain traditional cultural influences that could be more important to indigenous resilience than others?

It is an additional possibility that the question that was intended to be used in this research as the dependent variable (the measure of resilience) was not appropriate to the community. This could have rendered the relatively

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homogenous results seen and meant that simple relationships in contingency tables could not be determined. When nearly every participant responded that they were resilient, it could have been an indication that the question was inappropriate. It could indicate that either it was perhaps not understood by the participant, inappropriate, or not specific enough. If I were to construct the semi-structured interviews again, I would find another way of determining people's resilience that was not a simple yes or no response to whether a participant considers him or herself to be resilient. Perhaps more specifically using a scale like the CD-RISC (Connor & Davidson, 2003), as presented in Section 2.2.2, would have been more appropriate than asking people whether they considered themselves to be resilient. I would need to find a more robust way of delineating resilience and the themes that might be related to it, in order to perhaps find greater variation in the data and be able to draw stronger conclusions.

5.3 Changes in the Community and on the Land that Generations Described as Important

In Chapter One, I presented the third and final research question: *What changes in the community and on the land are important to different generations?* This was to see whether youth, adults, and elders had similar or differing perspectives on what they considered to be good or bad for the community and land. When different generations are described as being segregated (Ford, et al., 2006), I was curious to see if this would be seen in the perspectives of different generations.

Youth, adults, and elders described similar changes that they thought were good and those that were bad for the community, which could suggest there are common perspectives on change between generations (Section 4.4, Table 5). Common perspectives between generations could present an opportunity for community members working together to achieve a common goal or plan (Evans, et al., 2006; Marshall, Fenton, Marshall, & Sutton, 2007). For example, the eradication of alcohol could be a focal issue for leadership as well as addressing concerns with climate change and the prospect of the Mackenzie Valley Pipeline coming to the community in the near future. These concerns were all the most discussed changes between all generations (Table 6). While there was some variation between generations, the common points could be a promising opportunity for leadership to represent the needs and wishes of community members to foster a resilient community future. Seeing these common perspectives on change highlights how despite certain cultural differences in traditional knowledge and language, youth, adults, and elders, share common perspectives that could unite community members more than the suggested "segregation" might divide them.

Table 6

Summary of most common discussed negative and positive changes for the community and land by youth, adults, and elders.

Negative for community/land	Positive for community/land	Discussed by
Climate change		4 of 9 youth; 6 of 8 adults; 1 of 8 elders
Alcohol		5 of 9 youth; 5 of 8 adults; 5 of 8 elders
Gas Pipeline		2 of 9 youth; 1 of 8 adults; 1 of 8 elders
	Education	0 of 9 youth; 3 of 8 adults; 3 of 9 elders
	Recreation	5 of 9 youth; 2 of 8 adults; 0 of 9 elders

5.4 Reflecting on the Highlighted Themes of the Research

In section 4.4, I summarized some of the highlighted themes that emerged between different generations in the research, from focus groups and interviews. Elders and youth spoke of such themes as emotion such as love and spirituality motivating and supporting the resilience in the community, as well as taking action and creating change in the community as being a part of resilience. In other words, resilience is a combination of both feeling, being aware, and connected to those around you. As well, it is seeing and acting on areas that need to be changed and improved. These findings support other work on indigenous resilience where intangible forces of emotion, connection (Scarpino, 2007), as well as spirituality (Andersson & Ledogar, 2008; Scarpino, 2007), are holistic in supporting resilience (Kirmayer, et al., 2011). This was described by Inuit, but it also combines resistance and protecting oneself and community or culture from threat as seen by Mohawk people (Kirmayer, et al., 2011). Resilience is not a homogenous entity (Richardson, 2002); it can mean radically different things to different cultures and communities. In order for resilience to be applicable to a particular community, it must follow the local conceptualization of it. This could imply that any study of or attempt to foster resilience in a community should first assess what the local and cultural conceptualization of it is and build the research process or strategy around it.

5.5 Exploring a Concept of Intergenerational Resilience

I was interested in the idea of "intergenerational resilience". To me, this concept could be explored through the culmination of the three research objectives: *1*) understand how resilience is defined in Gwich'in and Inuvialuit cultures; *2*) explore what themes might be useful for understanding the resilience of youth, adults and elders, and examining the themes, to observe what the similarities and differences are between generations (as observed quantitatively); and 3) learn what changes different generations are focusing on as important to Aklavik. In other words, understanding what resilience meant in the community, what themes might be useful for understanding the resilience and reflecting the lived experience of each generation, and to understand the perspectives of each generation in order to explore what they might be able to teach each other or where they have common perspectives. Examining the quantitative and qualitative data in unison, I observed that

youth, adults, and elders have both differences in their experience with and perspectives of resilience as well as similarities.

Looking at the quantitative data (section 4.3, Table 4), youth have less traditional knowledge, language and spirituality than their elders, as well as having lower levels of post-secondary education and feel less supported by the community. In turn, one could initially conclude that youth, based on the quantitative data were less resilient than elders and that there would be little intergenerational resilience because youth were not resilient in the first place. However, it was in comparing these results to the qualitative data that the similarities between generations were observed and more potential for exploring intergenerational resilience revealed.

Whilst elders described more themes of resilience (most likely because of having more life experience), youth and elders had strikingly similar depictions of resilience. They both emphasized the need for coming together as a community, for strong leadership, and for traditional language, knowledge and values, as well as time on the land. They both described resilience as holistic. These ideas are echoed in other literature, namely: Scarpino (2007) that depicts resilience as a balancing of relationships with the creator, relationship with others, and relationship with self; Inuit who describe resilience as a holistic relationship between people and the land (Kirmayer et al. 2011); and Ho-Chunk who describe it based on individual and cultural strength (HeavyRunner and Marshall 2003). This need for community members to come together and work together, understanding the community holistically, to support the ability of the community to cope is a crucial point in both the elders and youth description of resilience.

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I have interpreted the results of my research to suggest that there are certain areas that could be particularly conducive to community members coming together and, in turn, for exploring intergenerational resilience. Despite the observation that youth do not have their traditional language, knowledge, or spirituality, in the interviews and focus groups, they described a desire to learn these skills, and attempts at doing so in the school and with their elders. This would be an opportunity for intergenerational sharing and learning. Creating a more focused effort for elders to be able to pass on their skills to youth could be (as described by nearly all participants) desired in the community. As well, learning what other knowledge and means youth (since they are not using traditional knowledge but still regarding themselves as resilient) were using could be further explored. There was much similarity in the perspectives of youth and elders. I had been expecting to observe greater difference in the perspectives of youth to elders, since other literature expressed concern that there was segregation between generations (for example Ford et al, 2006). However, all participants described very similar changes that they considered to be bad for the community (Alcohol) and for the land (Climate change), as well, all had very similar concerns for what was coming in the future (Oil and gas). The result that I found particularly intriguing was that they all described almost identical scenarios of how they wish to see the community in the future, which involved strong traditional culture and time on the land. These similarities could be an opportunity for coming together in the community, for intergenerational learning, and for emphasizing the commonalities between generations rather than the differences.

Intergenerational resilience, like other indigenous depictions of resilience, appears to be a process of coming together in a holistic concept of balance; coming together to reconcile difference whilst recognizing similarity. First, intergenerational resilience is a process of coming together and working together as a community. Second, it involves the balancing of many influences on the lived experiences of different generations, for example, traditional teachings of elders and ancestors with the contemporary issues and opportunities faced by a community. Third, it involves acknowledging that although certain traditional markers might be different between youth, adults and elders (ie. Traditional language, knowledge, and spirituality), these differences are an opportunity for intergenerational learning and for honouring the lived experience of each generation. Fourth, it involves recognizing the similarities in perspectives and experiences of different generations and not just focusing on their differences.

Chapter Six: Conclusion

6.1 Approach

As indigenous communities across northern Canada witness and engage in social, cultural, economic, and environmental change (Chapin, et al., 2004), many look to the future and wonder what it will bring for their children and future generations. Several years ago, one elder asked "what will [the future] be like for our children and our children's children? I think it will be hard for them. I think about that a lot." (Late Judith Catholique, Parlee, et al., 2007). Against this backdrop of change, this research examined how the community of Aklavik, NT, defines resilience, the similarities and differences in how youth, adults, and elders responded to quantitative questions regarding resilience, and how they perceive change and the future.

Some research has looked at different angles of coping with change, such as social learning (Davidson-Hunt & Berkes, 2003), factors influencing community vulnerability (Ford, et al., 2006), and the concept of resilience as relevant to indigenous people (Fleming & Ledogar, 2008; Kirmayer, et al., 2011). However, most has worked only with elders and not included the perspectives of younger generations. Furthermore, there is a call to increase indigenous conceptualizations of resilience so that it can be examined in a culturally appropriate and empowering way. This research aimed to address these gaps of youth involvement and indigenous perspectives by studying resilience with Gwich'in and Inuvialuit youth, adults, and elders in Aklavik, NT.

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This study originated from an International Polar Year (IPY) grant that was a collaborative effort between northern indigenous organizations, Trent University and the University of Alberta. This founding collaborative nature of the overall grant initiated this project with a focus that originated from local indigenous interests. Onwards, the research was developed to be guided by ideas from Community Based Participatory Research (Israel et al., 1998) and indigenous scholars focusing on research methodologies (Smith, 1999; Rigney, 1999). With the guidance of my supervisor, I developed research questions and a survey in Edmonton that I brought to the indigenous organization, Gwich'in Council International, and the community of Aklavik.

When I arrived in Aklavik, I was approached by the local principal of the Moose Kerr School, Velma Illasiak, to be a part of the research team (I refer to the team as "we") and we were lucky to also have a young woman, Bonnie Koe, as a member. Together, we polished the research design and questions so that they would be more appropriate to the context of the community, such as including a youth focus group. We gathered the data for the research using semi-structured interviews (n=28), unstructured interviews (n=7), one elders focus group with six participants and one youth focus group with six participants. We aspired to carry out research that would be both well received and meaningful to the community by using a variety of methods for collecting data that would allow participants to express their perspectives in different ways, whilst examining questions that had input from the community.

This attempt to carry out meaningful research was acknowledged by some community members. During one final interview with one elder, Alex Illasiak, said that this was the first research that has actually helped him in his life by giving him a chance to reflect on what has made him strong throughout his life, instead of focusing on his weaknesses.

We are not at that education level where we look at academically causes, results. We live life. This exercise has been more help to me in the negative results of residential school than any program that I have seen put forward by the government or aboriginal group. More insight into why I am who I am, what I do. It made me do that. More than any project that residential school groups do, they should do something like this... It has been very good." (Alex Illasiak).

The mixed-methods approach appears to have given some participants the

opportunity to reflect on their lives and understand resilience for themselves.

In at least some small way, it seems like the research might have been well

received and meaningful to the community by following some ideas of

working with communities in general (Israel et al., 1998) and indigenous

communities in particular (Smith, 1999; Rigney, 1999).

6.2 Summary of Findings

Based on the approach outlined above, the research was designed to examine

three research questions. These questions are:

- a) How is resilience defined in Gwich'in and Inuvialuit cultures?
- b) What themes might be useful for understanding the resilience of youth, adults and elders and, examining these themes, what are the similarities and differences between generations (as observed quantitatively)?
- *c)* What changes in the community and on the land are important to different generations?

A brief summary of the findings for each of these research questions is included below in three subsections.

6.2.1 How is resilience defined in Gwich'in and Inuvialuit cultures?

In a focus group with six elders, three definitions were described that had elements of other indigenous descriptions of resilience alongside possibly unique parts as well. The definitions were "to be strong"; "to be ready"; and to never give up". The first definition, "to be strong", was described with facets of cultural strength and resistance, but the most poignantly articulated part that elders wanted to transmit to young people, was that this strength is inherent to all. The second definition "to be ready" described how a person had to balance a connection between present and future in order to be able to cope with any situation. To be ready involved having and utilizing the traditional knowledge and wisdom of one's elders and ancestors on the land and with others when needed. Similar to what has been described by Gwich'in elders (Gwich'in Renewable Resource Board, 1997) and with Anishinaabe elders (Davidson-Hunt & Berkes, 2003) of learning from the accumulated experiences of their lives and spirituality that are nested together in traditional knowledge that they use in their present lives, community members drew on the past to be ready. The final definition of resilience was "to never give up", which extended a certain conceptualization of resilience as endurance, resistance, and belief in oneself through time. First, elders described to never give up as a part of everyday life on the land; one never gave up, because it was not even a part of the rhythm of life on the land. As well, they as individuals and as indigenous people have faced great challenge in their lives. This was either as threats to them personally, to their family, community or culture. "To be strong", "to be ready", and "to never give up" were the local conceptualizations of resilience that were based on the lived experience of community members and guided

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how the concept was understood in Aklavik from the experience of the people who lived there.

6.2.2 What themes might be useful for understanding the resilience of youth, adults and elders and, examining these themes, what are the similarities and differences between generations (as observed quantitatively)?

Looking at 16 compiled themes for quantitatively understanding indigenous resilience, three key ones demonstrated most observable difference: traditional knowledge, traditional language, and spirituality. For each of these, youth reported far less presence of them in their lives than adults and elders. Whilst this absence could be seen as negatively impacting the resilience of youth (Berkes & Jolly, 2001; Ford, et al., 2006), they all described great value for having traditional knowledge and language in their lives and a desire to have and pass them on to their children and younger generations. This could be an opportunity in the community for different generations to work together towards this common goal for improving the transmission of traditional language and knowledge (for example Kral & Idlout, 2009). Young people in this research described their challenges with learning their language and knowledge, which could provide valuable insight. With respect to spirituality, young people reported not having it as a part of their lives. However, some of them in discussion spoke of being on the land in a way that brought them peace and freedom, similar to Gwich'in elders in other research (Gwich'in Renewable Resource Board, 1997). When I brought these results to the community for dissemination and discussion, elders and adults were not concerned with the low rate of reported spirituality in the lives of young people, because they said that it is often not until later in life that a person will

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touch the spiritual part of their lives. They described spirituality as a process and a journey that young people were on, as opposed to something that could be measured as either present or absent in their lives. Despite the relative absence of traditional knowledge, language and spirituality in the lives of young people, this need not indicate dismay, but alternatively present opportunity for how to implicate young people in leadership, planning, and decision-making.

The initial goal of this research question was to look at the variables used to understand individuals who were resilient and compare them to those who were not. Whether or not a person was resilience was based on the personal perception of the individual. I would compare the responses to questions for examining each variable to see if there were any possible stories that might explain the resilience of community members. However, the research hit a particular challenge when nearly every participant described themselves as resilient. Subsequently, it meant that I could not compare the variables in terms of being resilient or not and I could not determine if certain variables tended to be more characteristic of those who are resilient, or not. This could potentially mean one of three things: 1). Every participant was resilient; 2). The measure was misunderstood by participants; 3). The measure was inappropriate for the situation. While I would like to think that every participant was resilient, and this could very well be true, I feel more inclined to lean to the conclusion that the measure was inappropriate for the situation. In order for this component of the research to be improved, the measure of resilience would need to be changed to potentially better demonstrate the more naturally occurring variation.

6.2.3 What changes in the community and on the land are important to different generations?

In developing the research, I encountered descriptions of how youth and elders were becoming increasingly different, sometimes described as segregation between generations (Ford et al 2006). Synchronously, the northern region of Canada is repeatedly acknowledged as one of significant social and ecological changes (Berkes & Jolly, 2001; Kruse, et al., 1998; Leo-Paul, Meis-Mason, & Anderson, 2008). I was interested to see what changes different generations would describe as negative or positive for the community and land as well as how they would like to see the future in the community in approximately 25 years. All generations considered certain changes as negative or positive. The negative changes were climate change, the gas pipeline, and alcohol. The positive changes were education and recreation in the community. First, this might suggest that many youth were aware of what was happening and has happened in their community. This could give a foundation for better understanding the perspectives of different generations in the community to support planning and observing that there might be greater unity over certain ideas in the community than might be expected. For the question regarding the future, almost unanimously, each participant described wishing that everyone would have traditional knowledge and language. This common vision among all generations in Aklavik could be inspiration to act together once again.

6.3 Questions for Further Research

The shortcomings, limitations, or emerging themes of this research provide potential questions for future research. The possible questions that I see are:

a). How should it be determined who is and is not resilient? Should this question even be posed?

b). In the future, how are those who could be seen as less resilient in this research faring?

c). What are the intangible pieces of resilience?

These three particular areas I will explore in further detail in this section as potential areas of research.

6.3.1 How to determine who is and is not resilient? Should this question even be posed?

In this research, I intended to focus more on the quantitative study of resilient and less-resilient individuals, but only one individual self-identified as nonresilient. This result left the analysis of this part of the research as practically impossible. Currently, there is one popular resilience scale available to examine resilience, the CD-RISC (Connor & Davidson, 2003), and another adapted by Andersson and Ledogar (2008) for indigenous youth and which they concluded was not a strong choice for studying resilience with indigenous people. Neither of these appealed in the research, and I decided to simply ask each participant if they considered him or herself to be resilient. However, this approach was unsuccessful. Thus there seems to be the need to develop a scale or measure that could be appropriate for understanding the resilience of indigenous people. Compounding the challenge of studying who is and who is not resilient is the question of whether it should even be studied in this manner. Studying the non-resilience of individuals could frame them as "damaged goods" (HeavyRunner & Marshall, 2003, p. 2) and has been concerning to other scholars (Fleming & Ledogar, 2008). Furthermore, the suggestion in this and other research that resilience is innate to each person suggests that resilience cannot be studied as something that someone either *has* or does not *have* (Richardson, 2002). Further questions along similar lines are: *How should resilience be studied with indigenous communities? Is there a necessary shift to be made in the study of indigenous resilience?*

6.3.2 In the future, how are those who might be seen as less resilient in this research faring?

When we look at the themes that are suggested to be connected to the resilience of individuals, some people might be seen as less resilient. For example, youth could be seen as less resilient because they did not have traditional knowledge, language, and spirituality. However, some literature suggests that resilience is a continuously changing experience where that which might be seen as an indicator of a person's resilience at one time, might be the opposite at another (Richardson 2002). In such, it is most likely that this cross-sectional snapshot of Aklavik is not a long-term representation of the resilience of the community. This might make a person question how the resilience of individuals might change in time and if these themes are connected to the resilience of a person and community through time. *In the future, how are those who might be seen as less resilient in this research faring*?

6.3.3 Intangible dimensions of resilience.

Similar to the work of Scarpino (2009) and Kirmayer et al. (2011), participants in this research also described resilience as intangible. One elder described it as not a black or white scenario and instead one that is mostly without concrete description in a grey area. Some elders described resilience as being a combination of love, spirituality and patience, yet such themes could be explored in much greater depth and detail. If resilience is often described in terms of intangible but interwoven parts by indigenous people, *What are the intangible pieces of resilience*? Such an exploration of resilience would probably be better suited to another discipline from rural sociology, such as anthropology which might be able to capture the texture of parts described as intangible.

Literature Cited

- Adger, N. (2000). Social and ecological resilience: are the related? . *Progress in Human Geography*, 24(3), 347-364.
- Alway, J., Belgrave, L., & Smith, K. (1998). Back to Normal: Gender and Disaster. *Symbolic Interaction*, *21*(2), 175-195.

Andersson, N., & Ledogar, R. (2008). The CIET Aboriginal Youth Resilience Studies: 14 Years of Capacity Building and Methods Development in Canada. *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 6(2), 65-88.

Anglican Church of Canada. (2008). All Saints School — Aklavik, NWT Retrieved 08/23/2010, from

http://www.anglican.ca/rs/history/schools/all-saints-aklavik.htm Austin, A. A. (2004). Alcohol, Tobacco, Other Drug Use, and Violent

Behavior Among Native Hawaiians: Ethnic Pride and Resilience. Substance Use & Misuse, 39(5), 721-746. doi: doi:10.1081/JA-120034013

- Babbie, E. (2010). *The Practice of Social Research*. Belmont, CA: Wadsworth Publishing Co.
- Bell, R., Ayles, G., & Fast, H. (2002). The Beaufort Sea Conference 2000 on the renewable marine resources of the Canadian Beaufort Sea. *ARCTIC*, 55, ii-v.
- Berkes, F. (1999). *Sacred Ecology: Traditional Ecological Knowledge and Resource Management*. London: Taylor and Francis.
- Berkes, F. (2007). Adaptive co-management and complexity: exploring the many faces of co-management. In D. Armitage, F. Berkes & N. Doubleday (Eds.), *Adaptive co-management: collaboration, learning and multi-level governance*. Vancouver: University of British Columbia Press.
- Berkes, F., & Jolly, D. (2001). Adapting to climate change: social-ecological resilience in a Canadian western Arctic community. *Conservation Ecology*, 5(2), 18.
- Bishop, R. (2005). Freeing ourselves from neocolonial domination in research: A Kaupapa Māori approach to creating knowledge. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (3rd ed., pp. 109-138). Thousand Oaks: Sage Publications.
- Brannen, J. (2004). Working qualitatively and quantitatively. In C. Seale, G. Gobo, J. Gubrium & D. Silverman (Eds.), *Qualitative Research Practice*. London: Sage Publications.
- Bryman, A., & Teevan, J. (2005). *Social Research Methods: Canadian Edition*. Oxford: Oxford University Press.
- Canadian Broadcasting Corporation. (2008, June 11, 2008). Prime Minister Stephen Harper's statement of apology. Retrieved from http://www.cbc.ca/news/canada/story/2008/06/11/pm-statement.html
- Chandler, M., & Lalonde, C. (1998). Cultural Continuity as a hedge against suicide in Canada's First Nations. *Transcultural Psychiatry*, 35(2), 193-211.

- Chapin, F. I., Peterson, G., Berkes, F., Callaghan, T., Angelstam, P., Apps, M., ... Whiteman, G. (2004). Resilience and Vulnerability of Northern Regions to Social and Environmental Change. *Ambio*, *33*(6), 344-349.
- Cohen et al. (1997). Mackenzie Basin Impact Study: final report. Ottawa: Environment Canada.
- Connor, K., & Davidson, J. (2003). Development of a New Resilience Scale: The Connor-Davidson Resilience Scale (CD-RISC). *Depression and Anxiety*, 18, 76-82.
- Couture, R., Robinson, M., Burgess, M., & Solomon, S. (2002). Climate change, permafrost, and community infrastructure: a compilation of background material from a pilot study of Tuktoyaktuk, North West Territories. *Geological Survey of Canada, 3867*.
- Creswell, R. (2009). *Research design: qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage Publications.
- Davidson-Hunt, I., & Berkes, F. (2003). Learning as you journey: Anishinaabe perception of social-ecological environments and adaptive learning. *Conservation Ecology*, 8(1), 5.
- Denzin, N., & Lincoln, Y. (2000). *Handbook of Qualitative Research*. Thousand Oaks, CA: Sage Publications.
- Dewailly, E., Ayotte, P., Bruneau, S., Laliberté, C., Muir, D., & Norstrom, R. (1993). Inuit exposure to organochlorines through the aquatic food chain in arctic Québec. *Environmental Health Perspectives*, 101(7), 618-620.
- Duerden, F. (2004). Translating climate change impacts at the community level. *ARCTIC*, *57*, 204–212.
- Duhaime, G., Lemelin, A., Didyk, V., Goldsmith, O., Winther, G., Caron, A., . . . Godmaire, A. (2004). Chapter 4: Economic Systems Arctic Human Development Report. Aykureyri: Stefansson Arctic Institute.
- Eto, S., & Kyngäs, H. (2008). Qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107-115.
- Evans, K., Velarde, S., Prieto, R., Rao, N., Sertzen, S., Davila, K., . . . de Jong, W. (2006). *Field guide to the future: four ways for communities to think ahead.* Jakarta

Nairobi: Nairobi Centre for International Forestry Research (CIFOR).

- Fleming, J., & Ledogar, R. (2008). Resilience, an Evolving Concept: A Review of Literature Relevant to Aboriginal Research. . *Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health*, 6(2), 7.
- Folke, C. (2006). Resilience: The emergence of a perspective for social– ecological systems analyses. *Global Environmental Change*, *16*, 253– 267.
- Ford, J., B., S., & Wandel, J. (2006). Vulnerability to climate change in the Arctic: A case study from Arctic Bay, Canada. *Global Environmental Change*, 16, 145-160.
- Ford, J., & Smit, B. (2004). A framework for assessing the vulnerability of communities in the Canadian Arctic to risks associated with climate change. ARCTIC, 57, 389–400.
- Ford, J., Smit, B., Wandel, J., Allurut, M., Shappa, K., Ittusarjuat, H., & Qrunnut, K. (2008). Climate change in the Arctic: current and future

vulnerability in two Inuit communities in Canada. *The Geographical Journal*, 174(1), 45-62.

- Fournier, S., & Crey, E. (1997). Stolen From Our Embrace: The abduction of First Nations children and restoration of Aboriginal communities. . Vancouver: Douglas and McIntyre Ltd.
- Fowler, F. (2002). *Survey Research Methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Gamble, D. (1978). The Berger inquiry: An impact assessment process. *Science*, *199*, 946-952.
- Gilgun, J. (2005). Qualitative Research and Family Psychology. *Journal of Family Psychology*, *19*(1), 40-50.
- Glaser, B., & Strauss, A. (1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine.
- Gobo, G. (2004). Sampling, representativeness and generalizability. In C. Seale, G. Gobo, J. Gubrium & D. Silverman (Eds.), *Qualitative Research Practice* (pp. 435-456). London: Sage Publications.
- Gooch, M., & Warburton. (2009). Building resilience in community-based NRM groups: An Australian case study. *Society and Natural Resources*, 22(2), 158-171.
- Grossman, F., Beinashowitz, J., Anderson, L., Sakurai, M., FInnin, L., & Flaherty, M. (1992). Risk and Resilience in Young Adolescents. *Journal of Youth and Adolescense*, 21(5), 529-550.
- Guba, E., & Lincoln, Y. (1989). *Fourth generation evaluation*. London, UK: Sage Publications.
- Guba, E., & Lincoln, Y. (1994). Competing paradigms in qualitative research. In N. Denzin & Y. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105-117). Thousand Oaks, CA: Sage Publications.
- Gwich'in Tribal Council. (2011) Retrieved 04/23/2011, from http://www.gwichin.nt.ca/The-Gwichin-Tribal-Council
- Gwich'in Comprehensive Land Claim Agreement (1992).
- Gwich'in Renewable Resource Board. (1997). Kak Geenjit Gwich'in Ginjik: Gwich'in Words About the Land. Inuvik: Gwich'in Renewable Resource Board.
- HeavyRunner, I., & Marshall, K. (2003). Miracle Survivors: Promoting resilience in Indian students. *Tribal College Journal*, 14(4), 14-19.
- Hild, C., & Stordahl, V. (2004). Chapter 9: Human Health and Well-being *Arctic Human Development Report*. Aykureyri: Stefansson Arctic Institute.
- Holloway, I. (1997). *Basic Concepts for Qualitative Research*. Oxford: Blackwell Science.
- Holloway, I., & Wheeler, S. (2009). *Qualitative Research in Nursing and Healthcare*. New Jersey: John Wiley and SOns.
- Houde, N. (2007). The six faces of traditional ecological knowledge: challenges and opportunities for Canadian co-management arrangements. *Ecology and Society*, *12*(2), 34.
- Huntington, H., Hamilton, L., Nicolson, C., Brunner, R., Lynch, A., Ogilvie,
 E., & Voinov, A. (2007). Toward understanding the human dimensions of the rapidly changing arctic system: insights and approaches from five HARC projects. *Regional Environmental Change*, 7(4), 173-186.

. Inuvialuit Final Agreement (1984), from

http://www.daair.gov.nt.ca/_live/documents/documentManagerUpload/ InuvialuitFinalAgreement1984.pdf

- Inuvialuit Regional Corporation. (2011) Retrieved 04/23/2011, from http://www.irc.inuvialuit.com/
- Israel, B., Schulz, A., Parker, E., & Becker, A. (1998). Review of communitybased research: assessing partnership approaches to improve public health. *Annual Review of Public Health*, 19, 173-202.
- Janesick, V. (1998). "Stretching" exercises for qualitative researchers. Thousand Oaks: Sage Publications.
- Jelen, B., & Alexander, M. (2005). *Pivot Table Data Crunching*. Indianapolis: Que.
- Johansson, G., Paci, C., & Hovdenak, S. (2004). Chapter 10: Education Arctic Human Development Report. Aykureyri: Stefansson Arctic Institute.
- Kirmayer, L., Dandeneau, S., Marshall, E., Phillips, M., & Williamson, K. (2011). Rethinking Resilience From Indigenous Perspectives. *Canadian Journal of Psychiatry*, 56(2), 84-91.
- Kral, M., & Idlout, L. (2009). Community Wellness and Social Action in the Canadian Arctic: Collective Agency as Subjective Well-Being. In L. Kirmayer & G. Valaskakis (Eds.), *Healing Traditions: The Mental Health of Aboriginal Peoples in Canada*. Vancouver: UBC Press.
- Krupnik, & Jolly, D. (2002). *The Earth is Faster Now: Indigenous Observations of Climate Change*. Fairbanks: Arctic research Consortium of the United States.
- Kruse, J., Klein, D., Braund, S., Moorehead, L., & Simeone, B. (1998). Co-Management of Natural Resources: A Comparison of Two Caribou Management Systems. *Human Organization*, 57(5), 447.
- Kuhnlein, H., Receveur, O., Muir, D., Chan, H., & Soueida, R. (1995). Arctic indigenous women consume greater than acceptable levels of organochlorines. *Journal of Nutrition*, *125*(10), 2501-2510.
- Leo-Paul, D., Meis-Mason, A., & Anderson, R. (2008). Oil and gas and the Inuvialuit people of the Western Arctic. *Journal of Enterprising Communities: People and Places in the Global Economy*, 2(2), 151-167.
- Lewthwaite, B. (2007). From School in Community to Community-Based School. *Canadian Journal of Educational Administration and Policy*, 64, 1-18.
- Lewthwaite, B. (2009). Examining the Influence of an Aboriginal Principal on Transformative School Development: A Case Study. *Journal of the Manitoba Educational Research Network*.
- Lincoln, Y., & Guba, E. (1985). *Naturalistic Inquiry*. London: Sage Publications.
- Marshall, N., Fenton, D., Marshall, P., & Sutton, S. (2007). How Resource Dependency Can Influence Social Resilience within a Primary Resource Industry. *Rural Sociology*, *72*(4), 359-390.
- McCarthy, J., Long, M., Martello, R., Corell, N., Eckley, S., Fox, G., . . . Tyler, C. (2005). Climate change in the context of multiple stressors and resilience *Arctic Climate Impact Assessment* (pp. 945-988). Cambridge: Cambridge University Press.

- McGloin, J., & Widom, C. (2001). Resilience among abused and neglected children grown up. *Development and Psychopathology*, *13*(1021-1038).
- McIntosh, M. (2009). Participants' Perspectives of Risk Inherent in Unstructured Qualitative Interviews. Doctor of Philosophy, University of Alberta, Edmonton.
- Mendlinger, S., & Cwikel, J. (2008). Spiraling Between Qualitative and Quantitative Data on Women's Health Behaviors: A Double Helix Model for Mixed Methods. *Qualitative Health Research*, 18(2), 280-293.
- Mignone, J., & O'Neill, J. (2005). Social Capital as a Health Determinant in First Nations Communities: And Exploratory Study in Three Communities. *Journal of Aboriginal Health.*, *March*.
- Miller, F., & Gunn, A. (2003). Catastrophic die off of Peary caribou on the western Queen Elizabeth Islands, Canadian High Arctic. ARCTIC, 56, 381-390.
- Minkler, M. (2005). Community-based research partnerships: challenges and opportunities. *Journal of Urban Health: Bulletin of the New York Academy of Medicine, 82*(2 Suppl 2), ii3-ii12.
- Morgan, D. (1997). *Focus Groups as Qualitative Research*. London: Sage Publications.
- Newton, J. (1995). An Assessment of Coping with Environmental Hazards in Northern Aboriginal Communities. *The Canadian Geographer / Le Geographe canadien, 39*(2), 112-120.
- Nuttall, M. (2001). Indigenous peoples and climate change research in the Arctic. *Indigenous Affairs*, *4*, 26-33.
- Olsson, C., Bond, L., Burns, J., Vella-Brodrick, D., & Sawyer, S. (2003). Adolescent resilience: a concept analysis. *Journal of Adolescence*, 26, 1-11.
- Olsson, P., Folke, C., Galaz, V., Hahn, T., & Schultz, L. (2007). Enhancing the fit through adaptive co-management: creating and maintaining bridging functions for matching scales in the Kristianstads Vattenrike Biosphere Reserve Sweden. *Ecology and Society*, *12*(1), 28.
- Parlee, B., O'Neil, J. D., & Lutsel K'e Dene First Nation. (2007). The Dene Way of Life: Perspectives on health from Northern Canada. *Journal of Canadian Studies*, 41(3), 112-133.
- Pearce, T., Smit, B., Duerden, F., Ford, J., Goose, A., & Kataoyak, F. (2009). Inuit vulnerability and adaptive capacity to climate change in Ulukhaktok, Northwest Territories, Canada. *Polar Record*, 1, 21.
- Potter, W. (1996). *Analysis of thinking and research about methods*. Mahwah, NJ: Lawrence Erlbaum.
- Pyett, P., Waples-Crowe, P., & van der Sterren, A. (2008). Challenging our own practices in Indigenous health promotion and research. *Health Promotion Journal of Australia*, 19(3), 179.
- Rapley, T. (2004). Interviews. In C. Seale, G. Gobo, J. Gubrium & D. Silverman (Eds.), *Qualitative Research Practice* (pp. 15-33). Thousand Oaks, CA: Sage Publications.
- Rasmussen, R. (2009). Gender and Generation: Perspectives on Ongoing Social and Environmental Changes in the Arctic. *Signs: Journal of Women in Culture and Society, 34*(3), 524-532.

- Rauhut, D., Rasmussen, R., Roto, J., Francke, P., & Ostberg, S. (2008).
 Kvalitativ analyse af fangst—og fiskeriafhængige samfund: Grønland"
 [Qualitative analysis of hunting- and fishing-dependent communities in Greenland] NORS Research Reports. Roskilde: Roskilde University.
- Rawluk, A., & Godber, A. (2011). Widening the scope of scenario planning in small communities: a case study use of an alternative method. *Ecology and Society*, *16*(1), 11.
- Redman, C., & Kinzig, A. (2003). Resilience of past landscapes: resilience theory, society, and the longue durée. *Conservation Ecology*, 7(1), 14.
- Richardson, G. (2002). The metatheory of resilience and resiliency. *Journal of Clinical Psychology* 58(3), 307-321.
- Rigney, L. (1999). Internationalization of an Indigenous Anticolonial Cultural Critique of Research Methodologies: A Guide to Indigenist Research Methodology and Its Principles. *Wicazo Sa Review*, 14(2), 109-121.
- Robards, M., & Alessa, L. (2004). Timescapes of Community Resilience and Vulnerability in the Circumpolar North. *ARCTIC*, *57*(4), 415.
- Rutter, M. (1985). Resilience in the face of adversity: protective factors and resistance to psychiatric disorders. *British Journal of Psychiatry*, 147, 598-611.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, 57(316-331).
- Saleebey, D. (2002). *Strengths perspective in social work practice*. Boston: Allyn and Bacon.
- Scarpino, G. (2007). Resilience and Urban Aboriginal Women. *Native Social Work Journal*, 6(1), 33-51.
- Scarpino, G. (2009). Resilience and Urban Aboriginal Women. *Native Social Work Journal*, 6(1), 33-51.
- Smith, B., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: Assessing the ability to bounce back *International Journal of Behavioral Medecine*, 15(3), 194-200.
- Smith, D., Varcoe, C., & Edwards, N. (2005). Turning Around the Intergenerational Impact of Residential Schools on Aboriginal People: Implications for Health Policy and Practice *Canadian Journal of Nursing Research*, 37(4), 38-60.
- Smith, L. (1999). *Decolonizing methodologies: Research and indigenous peoples*. Dunedin: University of Otago Press.
- Statistics Canada. (2006). Community Profiles 2006: Aklavik, NWT. Ottawa: Statistics Canada.
- Stewart-Harawira, M. (2005). *The new imperial order: Indigenous responses to globalization*. New York: Zed Books.
- Strand, K. (2003). *Community-based research and higher education: principles and practices*. Hoboken, NJ: John Wiley and Sons.
- Tervalon, M., & Murray-Garcia, J. (1998). Cultural humility vs. cultural competence: a critical distinction in defining physician training outcomes in medical education. *Journal of Health Care for the Poor and Underserved*, 9, 117–125.
- Tugade, M., & Fredrickson, B. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal* of Personality and Social Psychology, 86, 320-333.

- Turner, N., Davidson-Hunt, I., & O'Flagerty, M. (2003). Living on the edge: Ecological and cultural edges as sources of diversity for socialecological resilience. *Human Ecology*, 31(3), 439-463.
- Turner, N., Gregory, R., Brooks, C., Falling, L., & Satterfield, T. (2008). From invisibility to transparency: identifying the implications. *Ecology and Society*, 13(2), 7.
- Usher, P. (1993). Northern Development, Impact Assessment and Social Change. In N. Dyck & J. Waldram (Eds.), *Anthropology, public policy and native peoples in Canada*. Toronto: McGill Queens Press.
- Usher, P. (2000). Traditional ecological knowledge in environmental assessment and management. *ARCTIC*, *53*, 183–193.
- Usher, P., & Brody, H. (2010). Arnold James (Moose) Kerr (1921-2008). ARCTIC, 63(1), 121-123.
- Usher, P., Duhaime, G., & Searles, E. (2003). The household as an economic unit in Arctic aboriginal communities, and its measurement by means of a comprehensive survey. *Social Indicators Research*, *61*, 175-202.
- Wexler, L., DiFluvio, G., & Burke, T. (2009). Resilience and marginalized youth: Making a case for personal and collective meaning-making as part of resilience research in public health. *Social Science & Medicine*, 69, 565-570.
- Wolcott, H. (2005). *The art of fieldwork*. Thousand Oaks, CA: Rowman Altamira.
- Wollenburg, E., Edmunds, D., & Buck, L. (2000). Using scenarios to make decisions about the future: anticipatory learning for the adaptive comanagement of community forests. *Landscape and Urban Planning*, 47, 65-77.
- Young, O., & Einarsson, N. (2004). Chapter 13: A Human Development Agenda for the Arctic: Major Findings and Emerging Issues *Arctic Human Development Report*. Akureyri: Stefansson Arctic Institute.

Appendix A - Interview Guide

"Intergeneration Resilience in Aklavik, NWT"

"The interview is divided into four sections, each asking different things, and I will explain a little about each section before we begin each.

SECTION A

"In this section, I am going to ask you a bit about yourself, your history, your family and culture. Some of the questions that I will ask will be for you to explain something and some questions I will ask you to thing about along a scale of, for example, a lot, somewhat, a little, not at all"

- 1. (Don't ask) Gender of participant m f
- 2. Where were you born?
- 3. How old are you?
- 4. Are you Gwich'in or Inuvialuit?
- 5. What grade did you get up to in school?
- 6. Did you go to college or university?
- 7. (If YES) Did you get a diploma or degree?
 - a. What did you study?
- 8. Do you feel supported to go to college or university?
 - a. How would you feel more supported?
 - 9. Are you employed full-time, part-time, seasonally, or are you unemployed?
 - a. (IF UNEMPLOYED) What jobs have you had in the past?
 - 10. Who is in immediate your family?
 - 11. If you were to encounter difficulty, do you feel emotionally supported by your family? A little, a lot or not at all
 - a. Was this ever different in the past?
 - b. How?
 - 12. If you were to encounter difficulty, do you feel financially supported by your family? A little, a lot or not at all
 - a. Was this ever different in the past?
 - b. How?
 - 13. Do you have close friends?
 - 14. If you were to encounter difficulty, do you feel supported by your friends? A little, somewhat, a lot or not at all
 - a. Was this ever different in the past?
 - b. How?
 - 15. Do you consider yourself a part of the community of Aklavik? Yes or no.
 - a. What does community mean to you?

- 16. If you were to encounter difficulty, do you feel supported by your community? A little, a lot, or not at all.
 - a. Was this ever different in the past?
 - b. How?
- 17. Roughly, how many days and overnights in the past year have you spent on the land?
 - a. Days 0 1-5, 5-10, 10+
 - b. Overnight 0 1-5, 5-10, 10+
 - c. Why were you out on the land?
 - d. Was this ever different in the past?
- 18. What does "traditional knowledge" mean to you?
 - a. Do you consider yourself to hold traditional knowledge?
 - b. (IF YES) Can you give me an example of how you use traditional knowledge?
 - c. (IF NO) Do you rely on anyone else for traditional knowledge? if so, who?
- 19. Do you speak Gwich'in (if Gwich'in) or Inuvialuktun (if Inuvialuit)?
 - a. (IF YES) What role does your language have in your life?
- 20. What things make a person Gwich'in (if Gwich'in) / Inuvialuit (If Inuvialuit)?
- 21. What things that make a person Gwich'in (if Gwich'in) / Inuvialuit (if Inuvialuit) are strongest in your life?
- 22. What values have your parents and elders given you that you use in your life?
- 23. Are you spiritual?
- 24. Do you feel like you can make positive change in Aklavik if you wanted to? Yes, maybe, or no
 - a. What change would you make?
 - b. Who should be responsible for that change?
- 25. How effective do you feel that your community leadership is?
- 26. How does country food connect you to your family, community and culture?
- 27. When you experience change, do you most often feel optimistic or nervous?
- 28. Do you feel confident with your life? A lot, somewhat, a little, not at all
- 29. Do you find that you rely more on yourself or others in your life?

SECTION B

For Youth and Elders: "In this section, I would like to ask you about the idea of resilience that we talked about when we had all of us together the other day." For Adults: "In this section I would like to ask you about a word called resilience. What I mean by resilient, is the ability of people work with change, bounce back from difficulty, and find opportunity in change. When we talked with Gwich'in and Inuvialuit elders, they said that in Gwich'in, resilience could mean "gihhåhtaii", which I was told meant to be strong. In Inuvialuit, the elders had two words that could mean resilience: "itgannaiyaq" which they said means being ready and "gapinnailaq" which means not giving up."

- a. To you, what does it mean to be resilient?
- b. Could you please give me an example of this.
- 30. Tell me what it means to NOT be resilient.
 - a. Could you please give me an example of this?
- 31. Are you resilient?
 - a. How has your resilience changed through time?

- 32. What do you do to be resilient for difficulty in your life?
 - a. What could you do to improve this?
- 33. How do you contribute to the resilience of your family?
 - a. What could you do to improve this?
 How do you contribute to the resilience in your community to be able to cope with change?
- 34. How do you contribute to the resilience in yo a. What could you do to improve this?
- 35. What do you do to be resilient for difficulty on the land?
 - a. What could you do to improve this?
- 36. What motivates you to be resilient?
- 37. Can you think of and describe any emotions that motivate you to be resilient?

SECTION C

"In this section I would like to ask you about important positive and negative changes in your community and on the land that have been a part of your life."

37. Can you think of something that happened that changed life in Aklavik that you consider to be **positive** for yourself, your family, and Aklavik?

Now that you have described the change of _____, I will ask you a couple questions about that it.

- a. Why was this positive?
- b. How were you able to benefit from this change?
- c. How was your family able to benefit from this change?
- d. How was Aklavik able to benefit from this change?
- 38. Can you think of a change that happened on the **land** that is *positive* for yourself, your family, and Aklavik?**

*** It is absolutely okay if someone cannot describe a change that they think is positive on the land Now that you have described the change of ______, I will ask you a couple questions about that it.

- a. Why was this positive?
- b. How were you able to benefit from this change?
- c. How was your family able to benefit from this change?
- d. How was Aklavik able to benefit from this change?
- 39. Can you think of something that happened that changed life in Aklavik that is *negative* for yourself, your family, and Aklavik

Now that you have described the change of ______, I will ask you some questions about that it. All of the questions are about this change, until we move on to the next set of questions.

a. Were you able to help yourself through this difficulty?

i. If so, how?

- b. Was your family able help you through this difficulty?
 - i. If so, how?
- c. Were your friends able help you through this difficulty?

i. If so, how?

Still talking about the same change of _____ that you have been describing:

d. Did your culture help you through this difficulty?

i. If so, how?

e. Did your spirituality help you through this?

- i. If so, how?
- f. Did the government help you through this difficulty?

i. If so, how?

g. Did organizations in Aklavik help you through this difficulty?

i. If so, how?

Again, still talking about the same change of ______ that you have been describing:

- h. What resources would have better helped you to deal with this experience?
- i. If you were to face this change again, what (if anything) do you feel that you would do differently?
- j. Is there anything that you do now differently because of that experience?
- k. Whose responsibility should it be to help people through this change?
- 40. Can you think of a change that happened on the **land** that is *negative* for yourself, your family, and Aklavik?

Now that you have described the change of ______, I will ask you some questions about that it. All of the questions are about this change, until we move on to the next set of questions.

a. Were **you** able to help yourself through this difficulty?

i. If so, how?

b. Was your family able help you through this difficulty?

i. If so, how?

c. Were your friends able help you through this difficulty?

i. If so, how?

Still talking about the same change of ______ that you have been describing

d. Did your **culture** help you through this difficulty?

i. If so, how?

e. Did your spirituality help you through this?

i. If so, how?

f. Did the government help you through this difficulty?

i. If so, how?

g. Did organizations in Aklavik help you through this difficulty?

i. If so, how?

Again, still talking about the same change of ______ that you have been describing:

- h. What resources would have better helped you to deal with this experience?
- i. If you were to face this change again, what (if anything) do you feel that you would do differently?
- j. Is there anything that you do now differently because of that experience?
- k. Whose responsibility should it be to help people through this change?

SECTION D

"In this last section, I would like to ask you to think about the future. I am not asking you to predict the future, but just to think about how it could be. Like the first section, I will ask you some questions where you can answer along a

scale, for example, from a lot, somewhat, a little, not at all as well as some questions that you can fully explain. As well, I will ask you to think about changes you think could happen in the future both in Aklavik and on the land"

- 41. Do you ever think about the future?
- 42. Do you plan your life around your goals for the future?
- 43. Can you please describe a change that you think could happen in Aklavik in the next 25 years?

Now that you have described the change of ______, I will ask you some questions about that it.

- a. Do you feel prepared to cope with this?
 - i. If so, how would you cope with it?
- b. Do you feel that your family prepared to cope with this?
 - i. If so, how would your family cope with it?
- c. Do you feel that Aklavik is prepared to cope with this?
 - i. If so, how would Aklavik cope with it?

Still talking about the same change of ______ that you have been describing:

- d. Do you think that you, your family, and the community could benefit from this change?
- e. Who do you feel should help you through this change?
- f. If this change is something that you think is positive, could there be any negative consequences to you, your family, and your community?

44. Can you describe a change that you think could happen on the land in the next 25 years?

Now that you have described the change of _____, I will ask you some questions about that it.

- a. Do you feel prepared to cope with this?
 - i. If so, how would you cope with it?
- b. Do you feel that your family prepared to cope with this?
 - i. If so, how would your family cope with it?
- c. Do you feel that Aklavik prepared to cope with this?
 - i. If so, how would Aklavik cope with it?

Still talking about the same change of _____ that you have been describing?

- d. Do you think that you, your family, and the community could benefit from this change?
- e. Who do you feel should help you through this change?
- f. If this change is something that you think is positive, could there be any negative consequences to you, your family, and your community?

Questions about the future

I want to ask you some questions about the future in general, not necessarily the futures that you just described.

- 45. Do you think that the next generation in your family* will be more or less educated than you? More, less, the same
 - * The next generation means children, grandchildren, or great-grandchildren, depending on their age
 - 46. Do you think that then next generation in your family* will have less or more opportunities than you for jobs in the future? **More, less, the same**
 - 47. Do you think that the next generation in your family* will speak Gwich'in (if Gwich'in) /Inuvialuktun (If Inuvialuit)? **More, less, the same, not at all**

- 48. What other parts of your culture do you think that the next generation in your family* will carry forward?
- 49. Do you think that the next generation in your family* will spend more or less time on the land than you do or have in your life? **More, less, the same**
- 50. Do you think that the next generation in your family* will have a larger or smaller role than you in local decision-making? **Greater, lesser, the same.**

Vision Question

For the last question, I would like you to think about how you wish to see the future in 25 years. This is your chance to describe how you would like to see the future for your family.

51. How would you like to see the future for your children and grandchildren?

"Thank you so much for sharing your time and thoughts with me. I am so grateful for this time of learning about your life and having passed this time with you."

Appendix B - Project Summary

"Intergenerational Resilience in Aklavik, NWT"

We would like to invite you to participate in the project "Intergenerational **Resilience in Aklavik, NWT**" that is being carried out for my masters research. The purpose of the research is to understand how different generations adapt to changes in the community and on the land. The project will look at how people have faced changes in the past and how they may deal with them in the future. We want to understand what and who helped people through these changes.

The research is taking place in Aklavik in 2009-2010. We hope that this research will provide useful information that will be used for community planning, decision and policy-making, and improving the ability of communities to adapt to changes. It will offer a representation of the diversity of perspectives on the future and change. There will be also more specific benefits from:

a) day to day learning between the researcher and a local researcher / trainee;

b) creation of plain language reports and/or educational materials for the community;

c) creation of policy and planning tools and materials.

To participate, we invite you to be interviewed by Andrea and/or a research assistant. The interview will last about one hour. You will receive an honorarium of \$50 for your participation in the interview. The questions in the interview will all ask you about how you dealt with changes in the past. They will also be about how you think the future could be for your community, and how you wish it to be. These are some of the questions we would like to ask you:

- Can you think of a change that happened in Aklavik that you consider to be positive for yourself, your family, and Aklavik?
- What does "traditional knowledge" mean to you?
- Can you describe a change that you think could happen in the community in the next 25 years?

Withdrawing from the Interview: You do not have to participate in the interview and can choose not to answer questions that you are asked. You can also can withdraw (quit) from the interview at any time without any problem.

If you choose to withdraw any information from the interview or completely, you will not be penalized.

Considerations: There may be some things that you will want to consider before participating. The interview focuses on the changes that you have experienced in the past, how you see that the future could look like, and how you wish to see the future. I will also ask you questions about yourself. You will be asked to sign a consent form to confirm your willingness to participate in the interview, your consent to the use of the interview data in public documents (e.g. Master's Thesis) and consent to the storage and ownership of the transcript by the research partners (Aklavik Band Council and Community Corporation). If there are parts of the interview that make you feel uncomfortable or distressed during or after the interview or workshop, we recommend that you seek support from the local health and social services staff in your community.

What will be talked about in the interview will be recorded in hand-written notes and using audio-recording equipment. The audio-recordings will be transcribed and you will receive a copy. After you receive the transcript by mail, I will contact you after 30 days to determine if you have any questions or concerns or wish to have any or the entire transcript data edited or removed.

All results from interviews will be owned and held by the research partners (Aklavik Band Council and Community Corporation) and will be stored with them. Employees of the Aklavik Band Council and Community Corporation would have access to data from participants who have given consent to the use of their name and also agreed to sharing and storage of results with the partners.

Thank you for your time and interest in participating in this research,

Andrea Rawluk

If you have questions or require additional information, please contact:

Andrea Rawluk

Brenda Parlee

Department of Rural Economy Faculty of Agriculture and Forestry 507 General Services Building. University of Alberta, Edmonton Alberta T6G 2H1 Tel: (780) 492-6825 Fax: (780) 492-0268

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I have a research permit [#] from the University of Alberta, PER/ALES/NS Research Ethics Board (#).

If you have concerns about this study, you may contact **Dr. Wendy Rodgers**, Chair of the Faculty Research Ethics Board, at 780-492-8126. Dr. Rodgers has no direct involvement with this project.

Appendix C - Research Consent Form

"Intergenerational Resilience in Aklavik, NWT"

Researcher: Andrea Rawluk (Supervisor – Brenda Parlee)

Affiliation: University of Alberta. This research project is part of the requirement for a MSc in the Department of Rural Economy at the University of Alberta.

Funding: International Polar Year, NSTP - CBAR

Purpose: The research is a part of a project called the *Arctic Peoples, Culture, Resilience, and Caribou* grant, in collaboration with the Dene Nation, Gwich'in Council International, Inuit Circumpolar Council, Inuit Tapiriit Kanatami, Arctic Athabascan Council, and the University of Alberta. The purpose of the research is to understand how different generations adapt to changes in the community and on the land.

Timeline: Interviews will be carried out in 2009/2010.

1. I would like to be a participant in an interview with you for our project. Have you seen the attached project summary?

Yes ____

No _____

The interview will last about 1 hour. Information that is talked about in the interview will be recorded in hand-written notes and on audio-recording equipment. This information shared by interviewees may be summarized in the final report. At no time will any specific comments be attributed to any individual unless specific agreement has been obtained beforehand.

The research has been approved by the Aklavik Band Council and Community Corporation, Dene Nation, Gwich'in Council International, Inuit Circumpolar Council, Inuit Tapiriit Kanatami, Arctic Athabascan Council, and the Aurora Research Institute with Andrea Rawluk/Brenda Parlee, University of Alberta.

2. Have all of your questions about the interview or research project been answered by the researcher?

Yes ____

No

3. Consent to Interview: I understand and agree to participate in this research project as outlined above. I understand that I do not have to participate in this research project. I can choose not to answer questions that are asked and can stop the interviews or withdraw (quit) the project at any time without a problem.

Understand and Agree

Disagree

4. Consent to Use your Name in Public Documents: I would like to use the results of this research in my Master's Thesis and any related publications such as journal articles. These will all be public documents. A copy of the final report will be housed at the Aklavik Band Council and Community Corporation, University of Alberta and the Dene Nation, Gwich'in Council International, Inuit Circumpolar Council, Inuit Tapiriit Kanatami, and Arctic Athabascan Council will also receive copies of the final report and other deliverables as defined in the ethics application. Interview data will not be used in any public exhibition without your permission.

I would like to acknowledge you by name in all research documents and materials, or if you prefer the results of your interview can be coded to Person A or 001 etc. so that the public does not know who shared the information. If there is any information that you would <u>not</u> like to share publicly, please let me know.

I DO ____ want **my name** to be shared in public documents/ presentations. I DO NOT want **my name** to be shared in public documents/ presentations.

I DO _____ want **my photo** to be shared in public documents/ presentations.

I DO NOT ____ want **my photo** to be shared in public documents/ presentations.

5. Consent for Storage of your Interview Results

I will share a copy of your interview transcript with you. I will also keep a copy of any audio recordings and / or transcriptions for the purposes of reporting and publication. To ensure that your information is valued over the long term, we would also like to store copies with the research partners. Only those employed by the respective partners (Aklavik Band Council and Community Corporation, Dene Nation, Gwich'in Council International, Inuit Circumpolar Council, Inuit Tapiriit Kanatami, Arctic Athabascan Council) will have access to that information.

I DO ____ want **my information** stored with the above organization(s).

I DO NOT ____ want my information stored and would prefer that it be destroyed once the research project is completed.

By signing below I am acknowledging that I have read, understand and agree to the above terms and conditions for this interview.

Interviewee _____ Date:____

If you require additional information or have any concerns about this project, please contact:

Andrea Rawluk/ Brenda Parlee

Department of Rural Economy Faculty of Agriculture and Forestry 507 General Services Building. University of Alberta, Edmonton Alberta T6G 2H1 Tel: (780) 492-6825 Fax: (780) 492-0268

www.re.ualberta.ca

brenda.parlee@ualberta.ca

I have a research permit [#] from the University of Alberta, PER/ALES/NS Research Ethics Board (#).

If you have concerns about this study, you may contact Dr. Wendy Rodgers, Chair of the Faculty Research Ethics Board, at 780-492-8126. Dr. Rodgers has no direct involvement with this project.

Appendix D – Aurora Research Institute Research License



September 28, 2009

Ms. Andrea Rawluk University of Alberta Department of Rural Economy Faculty of Agricultural, Life, and Environmental Sciences 507 General Services Building Edmonton, AB TGG 2H1 Canada Phone: (780) 760-6520 Fax: (780) 0420-0268 Email: ajrawluk@ualberta.ca

Dear Ms. Rawluk:

Enclosed you will find your 2009 Scientific Research Licence No. 14620 as prepared under the Northwest Territories Scientists Act. Should you require support from the Aurora Research Institute's Research Centre(s), please contact the applicable Research Centre Manager(s) to discuss your research needs.

According to the Scientists Act, researchers issued licences must provide a summary report for each year of their research. Accordingly, upon completion of your 2009 field work in the Northwest Territories, please ensure that you provide a 200-word (maximum) non-technical summary of your research findings to cur office via www.nwtresearch.com/polar. This summary is due no later than June 30, 2010, or with your 2010 application, whichever is earlier. In addition, we require a copy of your final report and copies of any papers that you publish that pertain to research conducted under this licence. Finally, lif/as applicable, please provide to the communities copies of any reports that you have offered to them or that they have requested as a condition of their support for your project. Such reports should be provided to the communities prior to submitting new applications.

Thank you for assisting in the promotion and development of a scientific research community and database within the Northwest Territories. The summary report and other information that you provide are utilized in our annual report compendium, which is distributed to communities and organizations in the NWT as well as to researchers across Canada.

Best wishes for a successful study!

Sincerely,

Jonathon Michel Manager, Scientific Services Aurora Research Institute Tel: (867) 777-3298 Fax: (867) 777-4264 Email: licence@nwtresearch.com Website: www.nwtresearch.com

Box 1450 Inuvik, NT X0E 0T0 Tel: (867) 777-3298 Fax: (867) 777-4264