A Study of the Social Factors Contributing to Youth Smoking in an Inuit Community

Submitted by

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to

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Abstract

Inuit people in the Canadian Arctic have the highest rates of tobacco use of any population in Canada. On average, 70% of Inuit people use tobacco (Godel, 2006; Health Canada, 2005b; Ritchie & Reading 2003). This study investigated tobacco use among Inuit youth.

Using a mixed methodology the researcher facilitated the input of a community focus group to direct the study and provide input into the editing of the survey instrument. The focus group adapted a previously existing survey from a study done with Aboriginal youth to make it appropriate for an exclusively Inuit population.

The survey questioned the social influences that encouraged youth to begin smoking or to abstain from tobacco use. The study found significant statistical relationships between smoking caregivers and youth smoking as well as low self - reported health status and smoking. The study also found that youth who had a boyfriend or girlfriend had a statistically significant chance of not being a smoker. The results suggest that personal relationships are the most important predictors of smoking status for Inuit youth.

The author suggests that future research needs to consider the importance of personal relationships in investigating reasons for smoking and in planning health education and tobacco cessation programs.

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Dedication

This project is dedicated to the cause of research and education; in the hopes that one day tobacco related illness and death are no longer parts of everyday reality.

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Chapter One: Introduction

1.1 Background

> The future of Canada's health care system must reflect the values, needs and expectations of all Canadians, including Canada's Aboriginal peoples. The poor health status of Canada's Aboriginal peoples is a well-known fact and a serious concern not only to Aboriginal peoples but also to all Canadians. The situation is simply unacceptable and must be addressed...Only by designing programs that respect the cultures of the nation's people and communities and by celebrating Canada's diversity, can health professionals help improve the health of vulnerable populations and reduce the demands on the health system as a whole. (Romanow, 2002, pg.211)

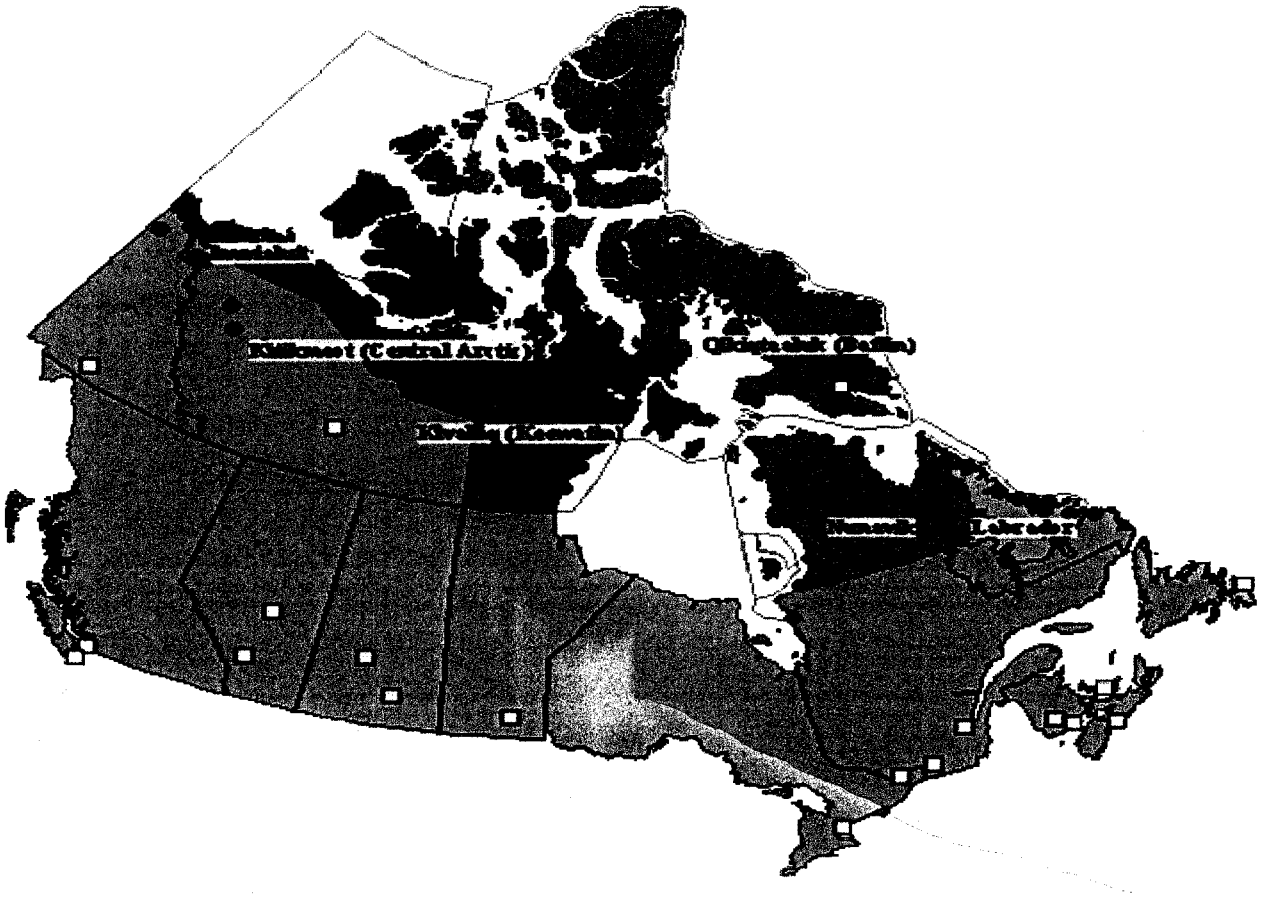

Figure 1: Inuit Settlement Regions in Canada.

Map retrieved from, The Inuit Business Directory, http://inuit.pail.ca/maps.html

The Inuit of Arctic Canada are a part of a larger population of Circumpolar Inuit who inhabit Alaska, Greenland and Russia. There are four Inuit regions in Canada;

Nunatsiavut (Labrador), Nunavik (northern Quebec), Nunavut, and the Inuvialuit Settlement Region in the Northwest Territories. About 34,545 people identified themselves as Inuit in the 2001 census; 22,625 people from Nunavut, 7,445 from Newfoundland and Labrador, 4,140 from the Northwest Territories, 215 from the Yukon and 120 from Prince Edward Island (Statistics Canada, 2001). Of the 34,545 self-identified Inuit in Canada, 94% reside outside Canada's 25 metropolitan census areas and about 60% live in the Northwest Territories (NWT), Nunavut and Nunavik and the northern part of Quebec (Jenkins, Gyarkos, Culman, Ward, Pekeles, Mills, 2003). Nunavut is divided into three regions; Quikiqtaaluk (Baffin), Kivalliq (Keewatin) and Kitikmeot (Central Arctic).

1.2 Statement of the Problem

A disproportionately high percentage of the health burden of tobacco use is borne by Canadian Aboriginal peoples (McDonald, 2003). Among Canadian Inuit, one of the most geographically difficult to access populations, the health of youth is poorer than their non-Inuit Canadian counterparts. Smoking is an immediate health concern in Inuit communities and presents an immediate public health challenge (Jenkins et. al., 2003). Considering unique cultural situations and social structure, McDonald (2003) points out that existing models to guide tobacco use intervention have questionable relevance and utility among Aboriginal populations. The purpose of this research study is to gather data from a group of Inuit youth in northern Canada regarding all aspects of tobacco influence on their lives. The information collected is intended to become a foundation for future tobacco education programs that are tailored to the needs of an exclusive population.

1.3 Rationale

Canadian research has shown that the use of tobacco and tobacco products, for non-traditional use, is almost double the national rates among Aboriginal and Inuit Canadians (Health Canada, 2002). The Canadian Inuit are experiencing the highest rate of tobacco use of any population in Canada with 70% of the population between the ages of 18-45 reporting themselves as current smokers (Godel, 2006; Health Canada, 2005b; Ritchie & Reading 2003). The Canadian Arctic lacks the infrastructure to support consistent treatment and there are few treatment options that have been adapted to be culturally sensitive (McDonald, 2003). A further complicating factor, in the treatment of tobacco addictions among Inuit people, is that unlike other Aboriginal people in Canada, the Inuit do not have a traditional use for tobacco (Health Canada, 2005b). Tobacco became popular with Inuit people shortly after the time of first contact with whalers and traders, however it has only been in the past 50 years that cigarette smoking has reached the prevalence rates of 60 – 80% among all Inuit peoples (Canadian, Alaskan, and Greenland Inuit) (Bjerregaard & Kue Young, 1998, pg. 198). Little research has been done with the Inuit, apart from the larger Aboriginal population, relating to the relatively new health concerns of tobacco abuse.

The purpose of this study is to conduct a case-based assessment of the current tobacco use patterns and behaviors of Inuit youth in one community. A case-based study of the community will provide centered, focused and reliable information about tobacco use patterns. Using a cross-sectional approach to study a larger number of students across Northern Canada vs. a single community case-study would not be feasible at this time. In order to respect the principles of Community Based Participatory Research

(CBPR) one would have to conduct focus groups in each community to gather information regarding tobacco use habits, areas of concern and to define the research direction interests of the community which is an undertaking too expansive for the scope of this project. Each community could potentially identify different issues and therefore survey tools would have to reflect the differing interests before data could be collected in a large number of Inuit communities. Using a smaller scope in the research design has allowed the researcher to develop relationships with the community research assistant and has resulted in meaningful interactions with a community focus group.

The results of the case study will contribute to the planning methods of the community health centre for their tobacco education initiative as well as contribute to the larger scientific body of knowledge about tobacco use in a Canadian minority group. For future research the methods and survey instrument could be adapted to be used within other communities to reflect differing needs and identified areas of concern.

1.4 Objectives of the Study

1. To build a focus group to inform the researcher of the issues related to tobacco use in the community of Cambridge Bay.
2. To engage the focus group in the modifying of an existing survey tool to use in the research process.
3. To collect data from youth regarding the factors that contribute to the decision to become involved with or abstain from tobacco use, using a modified survey tool.
4. To encourage classroom teachers to engage in the education of students regarding the harms of tobacco use, through opening communication and discussion of this topic.

1.5 Goals of the study

1. To begin a community dialogue about the issues surrounding tobacco use.
2. To encourage youth to think about their lifetime health goals in relation to their tobacco use habits.
3. To contribute new information to the community health centre and to the larger scientific body of knowledge that can be useful in developing community health education programs that are culturally sensitive and relative to Inuit youth.

1.6 Glossary of Essential Terms

For the purposes of this study, and the understanding of those reading the work, the following terms are defined as such:

1. Aboriginal – Individuals recognized as belonging to a cultural group that first inhabited a particular land, country or region. Aboriginal people are any first people, living on or off a reserve.
2. First Nations – An organized Aboriginal group in Canada, living on a reserve, with official recognition by the Canadian government.
3. Indigenous – Individuals (from family lines) originating in a particular area.
4. Inuit - A member of a people inhabiting the Circumpolar Arctic (northern Canada, Greenland, Alaska or eastern Siberia); formerly known as the Eskimo ('eaters of raw flesh') but they call themselves the Inuit ('the people')

1.7 Needs Assessment

> "Health care workers and practitioners are asked to assess the smoking status of individuals at every opportunity; to encourage individuals to become smoke-free; to assist individuals in doing so; to provide support and encouragement to individuals, families and communities working towards becoming smoke-free; to facilitate follow-up; and to refer individuals to tobacco control experts if necessary. Becoming smoke-free must not be a privilege only for those who can afford to do so, but must be accessible, practical and based on scientific evidence (WHO, 1999). Community-based tobacco control strategies and interventions must be implemented with collaboration from elders, individuals, communities, health care workers, health care practitioners and government (Health Canada, 2002)".

The Romanow Report (2002) states that new directions in health promotion and care should address the following needs:

- Create new models to co-ordinate and deliver health care services and ensure that Aboriginal health care needs are addressed.
- Adapt health programs and services to the cultural, social, economic and political circumstances unique to different Aboriginal groups.
- Give Aboriginal peoples a direct voice in how health care services are designed and delivered.

According to McDonald (2003), a disproportionately large amount of the health burden of tobacco use is borne by Aboriginal people in Canada. The current tobacco abuse interventions that have been created with populations outside Aboriginal, and more specifically Inuit populations, have questionable utility with Aboriginal and Inuit populations and completely new approaches for education and cessation are immediately necessary (McDonald, 2003). The gap in tobacco research has left Inuit people, particularly youth, at a disadvantage because there are no programs in place to assist young people to make healthy choices regarding tobacco use.

Chapter Two: Review of Literature

> "Tobacco use is unlike other threats to global health. Infectious diseases do not employ multinational public relations firms. There are no front groups to promote the spread of cholera. Mosquitoes have no lobbyists."
> -WHO Zeltner Report (2000)

The following review of literature focuses on important themes in the research including: Inuit cultural relationships with tobacco, the incidence of smoking (in Canada), tobacco use among youth, the known harms of tobacco and community based participatory research (CBPR). The report maintains a Canadian perspective in the research with the exception of some relevant research done with Alaska Natives, and some general health literature related to smoking outcomes from the American Surgeon General for the purpose of outlining the known harms of tobacco use.

Each section of the review summarizes Canadian research that influences the direction of this project. For the purpose of understanding the research design, used in this project, a review of CBPR was included in the review of literature.

2.1 Search Strategies

The search strategy for this review of literature included a subject search of all search engines in the Public Health section of the Lakehead University library, including searches of the following databases: ABI/INFORM, Complementary and Alternative Medicine (CAM) on Pub Med, E-Journals at Scholars Portal, ERIC, Health Sciences: A SAGE Full-Text Collection, Native Health Database, ProQuest Nursing Journals, Web of Science, These Canada Portal, PubMed and ASTIS. A few articles were located in these searches and were then obtained through RACER Interlibrary loans. Further the researcher used her own collection of relevant reports from the Ontario Tobacco Research Unit and did a review of the Health Canada online database, the Statistics

Canada online database and the National Aboriginal Health Organization (NAHO) database. The search words: 'Aboriginal', 'Tobacco', 'Youth', 'Canada', 'Inuit' and 'Health' were all used to find the most relevant research available.

Once search results were available titles of papers and reports were read for possible inclusion in the review of literature. If a title did not have enough information to determine relevance for the review the paper's abstract was read and a decision was made whether or not to include the work. The general limits for inclusion were (with a few exceptions), tobacco cessation or control work done in the last 10 years with a Canadian Aboriginal or Inuit population

In attempting to keep a Canadian focus many, articles were not included because the population studied was not exclusively Canadian, Aboriginal or more specifically, Inuit people. The reason the search was narrowed by these limits was to honor the unique cultural relationship the Inuit have with tobacco, unique to those found in any other population.

2.2 Cultural Relationship with Tobacco

Many Canadian (and American) Aboriginal peoples have a long history of traditional tobacco use. The tobacco plant is considered sacred to many Aboriginal groups and has been used for: prayer, giving thanks to the Creator and Mother Earth, communication with the spirits and to purify the mind and heal the body. For many Aboriginal people, tobacco plays a strong role in ceremonies and rituals that have been carried out for generations. It is believed that tobacco can create a strong communication bond between the person giving thanks or prayer and the spiritual world receiving the offering. Aboriginal Elders maintain that non-traditional use of tobacco, with its nicotine

inducing addictions, is disrespectful to the history and tradition of the Aboriginal people (FNIHB, 2005).[1]

Conversely the Inuit of Canada's High Arctic have no traditional link to tobacco, and have no cultural heritage related to tobacco use in ceremonies or rituals (Health Canada, 2005b). Tobacco quickly became a valuable commodity after the first contact with whalers and traders, however only in the last 50 years has the use of tobacco exploded to rates of 60+% among circumpolar Inuit people (Bjerregaard & Kue Young, 1998). Tobacco has become a part of the "modern culture" of the Inuit. With little access to health education programs, especially tobacco education and cessation programs, tobacco use among Inuit people is reaching alarming rates: over seven in 10 adults now smoke daily (Godel, 2006).

Approximately 100 years ago Inuit men began to use tobacco. At the time it was forbidden for youth to use tobacco products, however in the 1940s smoking became more common among Inuit people of all ages. Today Inuit women have one of the highest rates of lung cancer in the world (Healey, Plaza, Qayyum, Porter, Kablutsiak, Seguin, 2004; Godel, 2006). Due to the pervasiveness of tobacco use in Inuit culture the government of Nunavut adopted extensive tobacco reduction initiatives in 2003 (Godel, 2006). Bill 33, the Tobacco Control Act, is considered to be one of the most progressive pieces of legislation of its kind in Canada. The bill aims to reduce the amount of environmental tobacco smoke people are exposed to as well as reduce the sale of tobacco to minors (Healey, et. al, 2004, pg. 15)

According to Grey (1997), a member of the Pauktuutit Inuit Women's

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[1]Information has been gathered from the First Nations and Inuit Health Branch (FNIHB), a department of Health Canada focused exclusively on health issues of Aboriginal Canadians.

Association of Canada, tobacco has been considered a "necessary item" by the Inuit for a long time. Inuit traders would bring furs into the Hudson's Bay Company and trade for necessary items: necessary supplies included: flour, baking powder, salt, lard, tea, sugar, molasses and tobacco. In Inuit culture the feeling of craving tobacco is hard to resist; those craving tobacco are thought to be suffering so offering tobacco was a way to serve to others the things they need to improve how they are feeling and alleviate feelings of suffering (Grey, 1997).

2.3 Incidence of Smoking

According to the World Health Organization (WHO, 2003) tobacco products are responsible for 4.9 million preventable deaths worldwide every year. No other widespread product is as dangerous to long-term health and wellness and kills more regular users than tobacco and tobacco products. In Canada smoking is a foremost public health concern. Every year more than 45,000 Aboriginal and non – Aboriginal Canadians die as a result of disease and illness associated with tobacco use. (First Nations and Inuit Tobacco Control Strategy, 2002). Estimates predict that 3 million Canadians will die prematurely over the next 30 years without effective measures to control and reduce the amount of tobacco products consumed. The negative health effects of tobacco are exponential among Canadian Aboriginal and Inuit populations; the rates of smoking among Aboriginal and Inuit Canadians is more then double the national averages (First Nations and Inuit Tobacco Control Strategy, pg.1, 2002).

A number of factors compound the issue of tobacco use in Aboriginal communities including: many Aboriginals live in remote areas of Canada that do not offer any consistent type of treatment; few treatments have been designed or adapted to

be culturally sensitive; few theoretical models exist to guide intervention development; Aboriginals are more likely to suffer from depression and co-dependency problems which, in turn complicate tobacco treatment; and Aboriginals are over-represented in lower socio-economic groups. Strategies such as tax increases may actually increase tobacco use as some reserves make tax free cigarettes more broadly available or produce their own independent brands of tobacco products (McDonald, 2003, pg. 22). These compounding factors are all contributing to the prevalence of smoking amongst Aboriginal people.

The Canadian Inuit have the highest rates of smoking of any population in Canada. More than 70% of Canadian Inuit people between the ages of 18 - 45 use some form of tobacco and almost half of those individuals (46%) report tobacco use starting at or before age 14. Exposure to first and second hand smoke, as well as the availability of other forms of nicotine like smokeless tobacco are placing many Canadians at risk for a variety of diseases and illnesses (FNIHB, 2005).

Research done by Muhajarine, D'Arcy and Edouard (1997) investigated prenatal exposure to risky health behaviours and found that the most commonly used substances during early pregnancy were caffeine (87% of women), alcohol (46% of women), tobacco (30% of women) and psychoactive drugs (7% of women). The study determined that, in general, risk behaviours were more prevalent among women with lower education and income levels, Aboriginals and Métis women, those not living with a partner, those with previous births and in some cases younger women. In a study relating to birthing patterns and the use of locally trained midwives in Nunavik (northern Quebec) researchers found that almost 100% of the population of pregnant women they served

smoked (Houd, Qinuajuak, Epoo, 2003). A national database on breast feeding among First Nations and Inuit women in Canada found that 80% of women smoked during pregnancy (Jenkins, Gyorkos, Culman, Ward, Pekeles, Mills, 2003, pg. 31). The authors reported that more recently the rates of maternal smoking during pregnancy were 75% in Nunavik and 73% in Nunavut; Inuit infants have a very high risk of tobacco exposure in utero and to second – hand smoke in the home, especially considering the amount of time spend indoors due to weather conditions (Jenkins et. al., 2003, pg.32). A later study done by Butler - Walker, Houseman, Seddon, McMullen, Toffemire, Mills et. al. (2006) investigated the levels of toxins (mercury, lead, cadmium and essential trace elements) in maternal and umbilical cord blood levels. The study, carried out in Arctic Canada, found higher levels of blood cadmium among the moderate smokers (1-8 cigarettes/day) and heavy smokers (>8 cigarettes/day) 7.4 fold higher and 12.5 fold higher, respectively, compared to the non-smoking participants. The higher rates of smoking among the Inuit (77%) and Dene/Métis (48%) participants reiterated the need for on-going, evolving health action directed at tobacco prevention, reduction, and cessation for women of reproductive age.

Some positive statistics show that the prevalence of youth smoking in Canada is slowly decreasing from approximately 35% in the mid – 1980s to a lower rate of approximately 18% in June 2006 (Canadian Tobacco Use Monitoring Survey, 2006; Godel, 2006). Unfortunately the Canadian Tobacco Use Monitoring Survey does not include data from the territories so specific data is unavailable.

2.4 Tobacco Use Among Youth

The 1994 Surgeon General's Report on youth smoking assessed the literature relating to factors that influence the decision to smoke. According to the Surgeon General (1994) most youth will use tobacco for the first time before they complete high-school. The report reiterates the importance of public health work to assist youth in abstaining from tobacco to decrease the lifetime risk of addiction. The report noted that adolescent smokers experience relapse rates and withdrawal symptoms similar to those reported by adults.

The Surgeon General also described tobacco as a "Gateway Drug". The research shows that young people who use tobacco first can go on to use alcohol, marijuana and other drugs. Those most at risk for tobacco use are described as those with lower levels of school achievement, fewer skills to resist influences to use tobacco, with friends who use tobacco, and with lower self-images are more likely than their peers to use tobacco. Public health officials are working hard to combat cigarette advertising due to the ability of advertising to increase young people's risk of smoking by affecting their perceptions of the pervasiveness, image, and function of smoking. In one study of chronic disease coverage in Canadian Aboriginal newspapers researchers found that given the burden of tobacco-related cardiovascular disease and cancer in Aboriginal populations, the lack of articles disseminating information on these conditions was a missed opportunity for public health education (Hoffman–Goetz, Shannon, Clarke, 2003). The Surgeon General recommends the following interventions for reducing adolescent tobacco use: community-wide efforts that include tobacco tax increases; enforcement of minors' access laws; youth-oriented mass media campaigns; and school-based tobacco-use prevention

programs (US Department of Health and Human Services, 1994).

The 1998 Surgeon General's follow-up to the 1994 work reported that among American Racial and Ethnic Minorities smoking rates were among the highest with American Indian and Alaska Native populations (US Department of Health and Human Services, 1998). Smoking initiation can begin around age 11 - 13, however Canadian Aboriginal youth have reported smoking as young as seven and eight years old and sometimes children even younger will begin to imitate adults around them (Godel, 2006). Access to cigarettes is one of the best predictors of future smoking behaviour; in 2004, 56% of under-aged smokers reported getting tobacco/ tobacco products from friends and family. Further despite legislation, 33.3% of retailers continue to sell cigarettes to under-aged youth - a factor complicated by the fact that there is no consistent minimum smoking age in Canada (age of majority is different in some provinces and territories) (Godel, 2006). One exciting potential protecting factor against tobacco use is participation in organized sports. A convenience sample of Aboriginal youth at the North American Indigenous Games showed that only 22/163 athletes reported being current smokers, and 58/163 athletes reported smoking in the past. In this study age was not correlated with tobacco use; however older athletes in this study were more likely to have used tobacco in the past. The study concluded that participation in organized sports was potentially protective against the use of tobacco in a population known to have high smoking rates (Yakiwchuk, Stasiuk, Wiltshire, Brothwell, 2005).

2.5 Harms of Tobacco Use

Tobacco is the leading cause of preventable death and illness in North America (Godel, 2006; Yakiwchuk et. al 2005). The most common tobacco related diseases are:

myocardial disease, vascular disease, chronic lung disease (i.e. emphysema, cancer of the lung) and other cancers. Smoking is also a risk factor in the development of type 2 diabetes (Godel, 2006; Lanier, Bulkow, Novotny, Giovino, Davis, 1990). According to Health Canada's First Nations and Inuit Health Branch (FNIHB) unless they quit, more then half of all smokers will die from smoking related causes and most people will die before their 70th birthday. The average smoker dies 8 years earlier than a non-smoker with similar demographics; however, mortality and quality of life can be improved with smoking cessation.

The research shows a well established link between smoking and a variety of cancers, heart problems and respiratory ailments. In addition, smokers are also at risk for coronary heart disease, peripheral vascular disease, menstrual problems, fertility problems, spontaneous abortion and erectile dysfunction. Some less commonly recognized effects of smoking are: Chronic Bowel Disease (Crohn's Disease), tooth decay, osteoporosis, sleep problems, cataracts and Thyroid disease (Grave's Disease) (Statistics Canada, 2005).

Several effects have been noted as a result of exposure to second hand smoke during pregnancy. Godel (2006) described the potential effects of tobacco use during pregnancy in terms of both the fetus' and the mother's health. Expecting mothers may experience a number of health effects that can hinder her ability to carry the fetus to term. For example smoking mothers to be may experience: increased risk of perinatal death, placental problems affecting the mother's health and fetus' development, preterm deliveries, fetal growth retardation, and miscarriage. Individual infant responses to a smoking mother can include congenital abnormalities, sudden infant death syndrome

(SIDS) and learning disabilities later in life. In 1990 -1994 over half of post – neonatal deaths reported in Nunavik were attributed to SIDS. Based on the existing high smoking rates during pregnancy, and a relative risk for SIDS of three to four for infants born to mothers smoking during pregnancy, passive smoke exposure likely accounts for most of these deaths (Jenkins et. al., 2003, pg. 32). Smoking during pregnancy has also been associated with nicotine withdrawl symptoms for newborns. During the lifespan, individuals who were exposed to nicotine in utero could also experience attention deficit hyperactivity disorder symptoms (ADHD) and an increased risk for nicotine dependence in adolescence.

Among pregnant Alaska natives who use a smokeless tobacco product called Iqmik, their neonates showed a higher level of neurobehavioral signs than neonates whose mothers used tobacco while they were pregnant; indicating potentially negative neurological outcomes. The neonates born to mothers who used Iqmik also had higher levels of cotinine (a byproduct/metabolite of nicotine) concentrations compared to mothers who used other forms of tobacco: cotinine levels in blood can be used to determine tobacco exposure indicating that the fetus still experiences similar effects if the mother uses smokeless tobacco versus regular cigarettes (Hurt, Renner, Patten, Ebbert, Offord, Schroeder et. al., 2005).

In a Canadian Arctic study of indoor air-quality smokers were present in at least 90% of the households and nicotine concentrations exceeded 1.5 micro g/m(3) in 25% of the dwellings; the particulates found were closely associated with tobacco smoke, not NO(2) (Kovesi, Creery, Gilbert, Dales, Fugler, Thompson et. al., 2006). This study found that Inuit infants have extremely high rates of lower respiratory tract infection and

25% of the children had at sometime been hospitalized for chest illness (Kovesi et. al., 2006). Children who live with smoking parents are twice as likely to develop asthma in their lifetime versus children who live with parents who abstain from tobacco use (Health Canada, 2005a).

The research shows that there are important biological differences in the uptake of nicotine in cigarettes, pipes, cigars and smokeless tobacco. Cigarette smoke is acidic and the nicotine is absorbed through the lungs; pipe and cigar smoke is alkaline and the nicotine is absorbed through the mouth. It takes less than 10 seconds for nicotine to reach the brain after being inhaled. The acute physiological reaction includes: increased heart rate and blood pressure, constriction of blood vessels causing a drop in the temperature of the hands and feet, altered brain waves and induced muscle relaxation (Health Canada, 2005a). Smokeless tobacco can have similar health effects as other tobacco products including: cancers of the mouth and throat, recession of the gums, tooth loss and discoloration of the teeth and gums.

For those who are exposed to second hand smoke, the risk of illness and death from the above mentioned diseases and illnesses are great. More than 1,000 Canadians will die annually from diseases related to secondhand smoke exposure. Of those people 300 people will develop lung cancer and at least 700 people will die from a related form of coronary heart disease (Health Canada, 2005a).

In general, nicotine is the active ingredient in all tobacco products that causes addiction as well as the physiological effects that are harmful to those exposed. When a person attempts to quit using tobacco products, the withdrawal from nicotine may cause various uncomfortable experiences like: nervousness, sleep difficulty, abdominal pain,

poor concentration, muscle spasms, headaches, cough and changes in appetite. The World Health Organization (n.d.) describes the three separate areas of consequence for people, especially youth, who use substances like tobacco; the three areas of consequence are: physical consequences (illness, disease, disability etc.), psychological consequences (restriction of interests and lifestyle, depression, lack of concentration etc.) and social consequences (rejection by peers, family, employers, possible legal problems related to crimes committed trying to obtain a substance).

2.6 Community Based Participatory Research

> "Real participatory research must include Inuit control over the identification of areas and issues where research is needed and the design and delivery of the methodology. Inuit would participate in the collection and analysis of data and have equal control over the dissemination of the information and research findings. In my view, anything less is not participatory and it is unfair to call it such." (M. Flaherty, Address to International Workshop on Ethical Issues in Health Research among Circumpolar Indigenous Populations, Inuvik (1993)

Community Based Participatory Research (CBPR) stresses respect for individuals, community, individual decision making and non-invasive sharing of information between researchers and population groups (St. Denis, 1992). The major goal of CBPR is to place the less powerful at the centre of knowledge creation and shift peoples' lived experience of marginalization to the center of focus (Varcoe, 2006). CPBR is linked to many Indigenous philosophies because it promotes the value of local participation, learning through action, collective decision making and empowerment through group activity (Loppie, 2007).

CBPR has a history in sociological and anthropological research studies. CBPR has been described by St. Denis (1992) as a qualitative methodology that emphasizes respect for the individual and a commitment to social change. CPBR is emerging as a

way to enable research to empower communities. The outcomes of the research process must ensure that the beneficiaries of the research process are the community members themselves (Kurelek, 1992). CBPR is a methodology that attempts to correct the mistakes of the past, when it was common for researchers to undertake deficit – based studies (studies in which only the negative is accentuated and the strength, resilience and cultural knowledge is ignored) and 'helicopter' research (teams of researchers swoop into a community, gather data and leave – not working to build capacity of in turn help facilitate healthy change) (Oberly, Macedo, 2004).

According to Varcoe (2006), a disparity exists in the CBPR field because so many well-meaning, non-minority researchers, are working with minority and marginalized populations in the name of empowerment. Aboriginal groups, marginalized by their minority status, need self-empowerment that would be assisted by the recruitment and involvement of more minority researchers. However a balance of the system cannot be made until more minority researchers enter the research field. In the past researchers have rarely asked for community collaboration or contribution to the research design, method of research conduction or analysis of research findings. In the past outsiders would enter communities and exploit resources or intellectual properties, this has been described as "colonizing" (Boyer, Mohatt, Lardon, Plaetke, Luick, Hutchinson et. al, 2005). Researchers today are learning to work within the emerging principles of CBPR and evidence suggests that the results of more collaborative work produces more appropriate, relevant, respectful, accurate and effective research (Boyer et. al, 2005).

The Inuvik Workshop, held in 1995, brought researchers, community members and Aboriginal leaders together to discuss the importance of ethical contracts made

between researchers, individual research participants and communities (Kaufert, Commanda, Elias, Grey, Kue Young, Masuzumi, 1999). Members of the conference delegation discussed the ethical, methodological and political importance of considering and incorporating cultural values and contemporary political perspectives of Aboriginal communities in the research review process by adopting some of the basic principles of CPBR (Kaufert et. al, 1999). The following themes were the topics of discussion at the conference:

- protecting and balancing the rights of individuals and the community
- defining communities
- representation by all stakeholders in different community groups
- importance of equal participation of researchers and community in establishing research priorities
- methods for obtaining individual and community informed consent
- problems with assuring confidentiality and protecting community identities
- how to protect communities from research associated risks

Korhonen (2004) investigated the differences between the non-Inuit approach to effective counseling techniques and the Inuit approach to effective counseling techniques. The author found that Inuit and non-Inuit approaches were similar in generic counseling methods as well as in affective, behavioral and cognitive approaches. The author described the Inuit as problem-solvers who are future-oriented; she also described the system of problem resolution to be based on thinking/analyzing/reasoning and cognitive strategies. Korhonen (2004) described the Inuit approach to problem resolution be based

on a system of "making-sense" of problems in order to resolve them. Elders in the Inuit community also expressed the understanding of personal feelings to be critical in the resolution of personal and interpersonal problems; younger Inuit felt that the expression of feelings should not be forced only enabled during conflict resolution. Self- esteem and the role of positive self-esteem is also very important to the Inuit in problem situations. According to Korhonen (2004) positive self-esteem is viewed as a factor in a productive life. In this study, the researcher found that "talk-therapy" was an effective method of including individuals in the research process (Korhonen, 2004).

Throughout the research experience researchers must focus on the known cultural methods for problem solving and they must also pay careful attention to the power dynamics of race, both the race of the researcher and the research participants (Varcoe, 2006). Loppie (2007), reminds researchers of the importance of story telling in all Indigenous cultures: through stories, myths and legends, elders symbolically describe socially appropriate behaviour and share knowledge, philosophy and instruction without direct censorship.

The National Aboriginal Health Organization (NAHO)[2] has established a system of ethics to be employed in all research projects concerning Aboriginal people; the four principles are represented by the acronym: OCAP – ownership, control, access and possession (NAHO, 2003). These four principles are the fundamental to building research designs that respect Aboriginal people, the need for meaningful research and the completion of a healthy research experience for all involved. The principles of OCAP

[2] The National Aboriginal Health Organization (NAHO) is an Aboriginal-designed and controlled body committed to influencing and advancing the health and well-being of Aboriginal Peoples through carrying out knowledge-based strategies. Access via http://www.naho.ca/english/about_naho.php

guide researchers to consider the balance of the rights and responsibilities and also to consider Aboriginal people as equal partners in the research process (NAHO, 2003).

Chapter Three: Methodology

3.1 Ethical Issues

Ethical approval was granted by the Lakehead University Ethics Review Board in October 2006. In March of 2007 the research assistant proposed allowing youth, who had not returned a completed consent form, be allowed to participate in the study based on the past experience that it was difficult to collect consent forms for many projects and initiatives in the community. The researcher presented the case, to include students wishing to complete the survey who had not returned a completed consent form, to the Lakehead University Ethics Review Board. The Ethics Review Board concluded that youth expressing interest in completing the survey could be included in this circumstance, without consent forms, due to the low risk of harm to the students and the past experience of the school having difficulty collecting consent forms. Further ethical approval was granted in April 2007 for the inclusion of surveys collected without written consent.

3.2 Research Design

This study was based on a mixed methods research design. The first aspect of the design was the inclusion of the principals of Community Based Participatory Research (CBPR). The survey itself is a quantitative approach to research, however throughout the research process the researcher carefully considered the ideas of CBPR out of respect for the community and the process of engaging in research as a community outsider.

At the onset of the research process the researcher engaged a focus group of three individuals from different professional fields (medicine, law and education) in Cambridge Bay to inform the researcher of their concerns relating to tobacco use among youth in the community. In this study the focus group was not a representation of the

entire communities' perspective; instead the focus group was a representation of people who had both personal and professional interactions with youth and were interest in the health and wellness of youth in Cambridge Bay. The focus group consisted of people at the front lines of health education, design and delivery. The members of the focus group pooled both their professional and personal experiences with youth and discussed the issues they encountered in their own families and practices. From this information the members informed the researcher of their observations and together they identified the most prevalent issues affecting youth in Cambridge Bay. The focus group then reported back to the researcher about issues they felt were relevant to the study of tobacco use in their community. The focus group made recommendations for the modification of an existing survey instrument.

In order to respect the principles of CBPR (and increase the validity of the instrument) the researcher encouraged the participation of the focus group members in the design of the survey (focus group members identified appropriate sections to include and modify); in the organization of the survey presentation (focus group members determined appropriate layout of questions); in the questions to be included in the survey (focus group members edited and eliminated questions from the existing tool); in the explanation of the survey process to the youth and in the data collection (the focus group members delivered the survey to youth in the school); and in the final stages of the process focus group members will disseminate the results back to the youth and the teachers in the school.

Three focus group members in particular were the driving force behind this project happening in Cambridge Bay. Each person was a visible member of the

community, a lawyer from the family law practice, a nurse from the health centre and the guidance counselor from the high school. These three people reviewed and commented on a number of drafts of the survey tool and were instrumental in deciding which items to include; which items were relevant to the youth in their community; which items to remove from the tool; how best to present the survey for ease of understanding for young people; and gaining parental consent for minor youth to participate in the project. The focus group members agreed on the final tool and the researcher did not perceive any bias from the focus group in the design of the instrument. The focus group members were individuals with authority in the community which could be of concern; however the personal and professional interests of the individuals ensured they were conduits of the community needs and each individual would use the research as a means for encouraging discussion and health education. The principles of CBPR were pivotal in the design of this project.

The second aspect of the design was a quantitative approach to data collection. A quantitative design allows the research to produce facts and statistics with a reproducible research design (Neutons & Rubinson, 2002, p. 164). The researcher chose to use a quantitative survey instrument to preserve the test, re-test reliability of the study (although the instrument was only used once for data collection). The intention of designing the instrument in the form of a quantitative survey was so in the future the instrument could be reused in Cambridge Bay and would produce more reliable results. The quantitative survey design was appropriate in this situation because it allowed the researcher to gain the input from a high percentage of the youth in the community; 79/128 (61.7%) youth of middle and high school age completed the survey instrument.

The mixed method research design has been tailored to the experience of youth and tobacco use in Cambridge Bay, however in future research projects researchers could employ the same approach in other communities. Using a community based focus group to identify the specific issues, then facilitating members of the focus group to undertake roles as research assistants in their own communities will improve the experience of the research process for all involved. In order for this research project to be used to initiate further research with Inuit youth the survey used can be easily adapted to different issues in different communities.

3.3 Sample

A nonprobability convenience sample was used for this research design because the researcher does not intend to imply that the results of this study will apply to the larger population of Inuit youth in northern Canada. With nonprobability convenience sampling the researcher will not make any claim that the results of the study are representative of the population outside of the surveyed individuals (Neutons & Rubinson, 2002, p. 146). The researcher intends for the reader to consider the results as representative of the community of Cambridge Bay and further research needs to be undertaken in other communities to expand scientific and social understanding of the profound impact of tobacco use across Arctic Canada. This study is a starting point to gather knowledge; however more research needs to engage with the diverse community needs in Arctic Canada.

The researcher accessed the sample of students through a personal friend in the community. The community friend put the researcher in contact with the guidance counselor at the local high school. The researcher presented the research proposal to the

guidance counselor and the school's principal and asked permission to work with the students of the school. The principal granted permission for the project to take place, and the guidance counselor agreed to act as the research assistant for the duration of the project.

The researcher outlined the ethical policies of Lakehead University with the research assistant and written confirmation was signed stating the research assistant understood the principles of ethical conduct when working with human subjects. The research assistant then contacted the classroom teachers and gave a brief explanation of the research project to teachers and students. Students took home a consent form and returned it to the research assistant prior to completing the survey. The research assistant was present during the data collection to assist with any questions as they arose. The students completed a survey that had been adapted by the community focus group from a previous study with Aboriginal youth regarding tobacco use.

After the initial survey period a number of students approached the research assistant asking to complete the survey because their classmates and friends who had completed the survey expressed excitement about having a forum to discuss their opinions. The research assistant contacted the researcher and proposed allowing the students to complete the survey on an "assumed consent" agreement. Each student had listened to an explanation of the project and understood their rights to withdraw from participation at any time; however the research assistant confided that having documents send home and asking to have them returned would not be an effective way to include the majority of the students in the community in the project.

The school has adopted an "assume consent policy" in a number of situations since it is very rare to have a high response rate from individuals when asking for consent forms to be returned. The researcher reported the situation to the Lakehead University Ethics Committee and presented the case to be allowed to include students on an "assumed consent basis". The ethics committee ruled that in these special circumstances and considering the minimal risk of harm for students participating in the study, it would be appropriate for the students who were interested in participating, but had not returned a consent form, to participate with assumed consent.

3.4 Data Collection

A cross-sectional approach to data collection was used for this project. A cross-sectional approach was appropriate for a number of reasons: limited financial resources, limited time for data collection in the classroom and a limited time frame for the research project to be completed. The cross-sectional design allows the research to be carried out in a single time period which makes the researcher able to access the population in a very remote area without needing to consider the prohibitive expense of traveling back and forth to the far north for data collection.

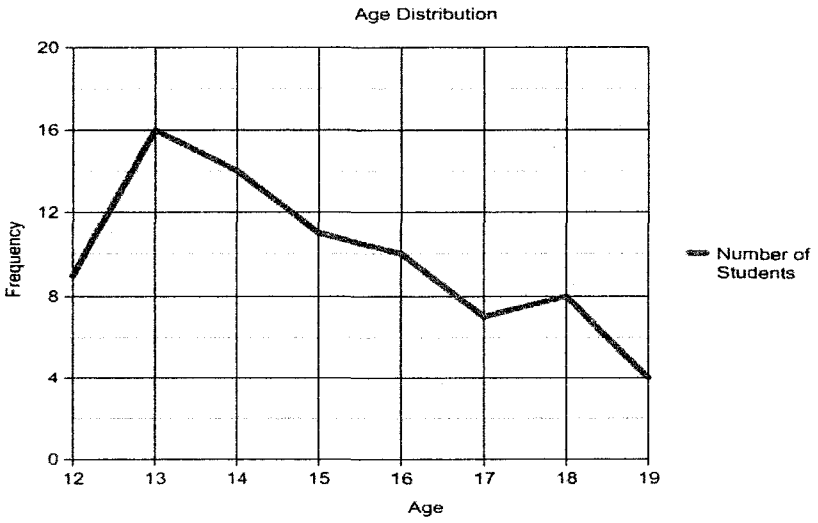
Chapter Four: Findings

4. 1 Descriptive Analysis

Demographics

The data for this study are based on an initial sample of 128 students enrolled in the middle – high school grades at the selected school. Of the 128 eligible students, 79 (61.7%) completed a survey. The students ranged in age from 12 – 19 years old. Students aged 13 years were the largest age cohort, 20.25% of the study group, and students aged 19 years were the smallest age cohort, 5.06% of the total study population. The gender representation was 53.16% (42) female and 46.84% (37) male. The survey showed that 36.71% (29) of the students had a job; common jobs were working as a cashier, working at the Quickstop, babysitting and working in security. Surveys showed that 29.49% (23) of the students had a boyfriend or girlfriend. Further: 32.91% (26) students had one or more pets; 67.09% (53) students spoke only English and 32.91% (26) students spoke English plus another language.

Table 1: Age distribution of study participants



Friends

Students answered questions regarding their social relationships: 74.68% answered 'true' to the statement, "I have many friends"; 46.84% of students answered 'true' to the statement, "I get along easily with others my age" and 39.74% of students answered 'sometimes true/ sometimes false' to the statement, "Others my age want to be my friend".

Students also responded to questions about their friend's use of tobacco, alcohol, marijuana and other drugs. Forty – one percent of students said 'a few' of their friends smoke cigarettes or use another tobacco product; 56.41% of students said 'none' of their friends drink alcohol; 45.95% of students said 'none' of their friends have tried marijuana and 64.94% of students said 'none' of their friends have tried drugs other than marijuana.

School

Students were asked to report how they feel about school and the subjects they study in school. Forty – one percent of students reported they "like school very much" and 32.05% of students responded they "like school quite a bit". Students responded to questions regarding what things are important in school: how important is it to, make friends, 42.86% responded 'very important'; get good grades, 81.58% responded 'very important'; participate in extracurricular activities, 40.26% responded 'somewhat important'; show up for class on time, 71.79% responded 'very important'; learn new things, 70.51% responded 'very important'; express your opinion, 52.63% responded 'somewhat important'; take part in student council or other similar group, 50% responded 'very important'.

Table 2: Student's Enjoyment of School Curriculum

Subject	I like it a lot	I don't like it very much	I hate it	I don't take it
Math	50.00	41.05	07.69	01.28
Science	46.15	46.15	05.13	02.56
English	50.68	31.51	12.33	05.48
French	10.14	04.35	10.14	75.36
Inuinnaqtun	51.32	18.42	03.95	26.32
History	16.44	31.51	06.85	45.21
Phys-ed	74.67	08.00	n/a	17.33
Fine Arts	48.05	16.88	n/a	35.06

Personal Feelings

Students answered a number of questions related to self perception and self-esteem: 70.89% of students answered 'true' to the statement, "in general I like the way I am"; 58.23% of students answered 'true' to, "overall I have a lot to be proud of"; 48.10% of students answered 'true' to the statement, "a lot of things about me are good"; 56.41% of students answered 'mostly true' to the statement, "when I do something I do it well" and 50.63% of students answered 'true' to the statement, "I like the way I look".

Activities

Thirty-one percent of students feel they are as active as other people their own age; 36.71% of students watch T.V., videos or DVDs 1 -2 hours per day. Of the students, 77.22% have access to a computer at home and 73.33% of students with a computer at home use it for surfing the internet or playing games 0 – 3 hours per day. Ninety – three percent of students also use the internet for school or work between 0 – 3 hours per day.

Table 3: Participation in activities outside of school in the last 12 months

Activity	4 +/ week	1 – 3 x/ week	< 1x/ week	Never
a. Played sports or participated in physical activities **WITHOUT** a coach or an instructor (e.g. biking)?	21.52%	34.18%	20.25%	24.05%
b. Played sports **WITH** a coach or instructor (e.g. basketball)	35.44%	30.38%	06.33%	27.85%
c. Taken part in dance, gymnastics or another group or lesson (**OUTSIDE** of school)?	10.39%	11.69%	16.88%	61.04%
d. Taken part in art, drama or music groups, clubs or lessons (**OUTSIDE** of school)?	02.63%	05.26%	15.79%	76.32%
e. Taken part in clubs or groups such as Guides or Scouts, 4-H club, community, church or other Religious groups?	07.79%	12.99%	06.49%	72.73%
f. Had a hobby or craft (e.g. drawing, model building etc)?	22.78%	22.78%	22.78%	31.65%
g. Played gambling games **FOR** money (e.g. cards, dice, or other casino games)?	03.80%	17.72%	17.72%	60.76%
h. Played gambling games **NOT** for money (e.g. cards, dice or other casino games)?	20.51%	20.51%	28.21%	30.77%

Family and Household

The students were asked about their living situation and 44.44% of participants live with both parents, 37.5% live with their mother, 5.56% live with their father and 12.50% have another guardian (i.e. friend's parents, aunt or uncle etc.). Of those primary caregivers, 71.79% smoke cigarettes or use tobacco. Sixty – three percent of students live with five or less people in their home; 69.33% of the students live in homes with three or less people below the age of 21 (including themselves); and 75.68% of the students live with two or less people who smoke in their home.

Health

Students rated their health indicators in a three questions: 28.57% of the students rated their health as good, however 80.52% of the students rated their health as good, very good or excellent. Fifty – six percent of the students eat breakfast everyday; however 28.21% only eat breakfast 1 – 2 times per week. Forty percent of the students are trying to lose weight and 28% of the students are not trying to do anything about their weight.

Smoking and Tobacco Use

In Cambridge Bay 68.35% (54) of the students reported that they were smokers at some point in their lives, 29.11% (23) students reported that they were never smokers; 2.53% of the students did not respond. Currently 42% of students smoke regularly, 30% do not smoke regularly and 28% of students did not report their current smoking status. Students were asked "do you use tobacco in your religious celebrations"; 80.77% (63) students responded no, however 19.23% (15) students responded yes; one student did not respond to the question. Of the students who ranked their reasons to *not* smoke, 13.04%

(3) said 'personal choice' was their top reason for not smoking. Of the students who *do* smoke, 33.33% (18) also said 'personal choice' was their top reason for continuing to smoke/ smoking. Twenty – three percent of students started smoking when they were 12 years old; 57.14% of the students who smoke, started smoking when they were 12 years old or younger. The most popular kind of tobacco product is cigarettes, 88.37% of the students preferred cigarettes to other tobacco products. Forty – five percent of the students have smoked daily, that is using tobacco at least one time a day every day for 30 days. On a day that smokers use tobacco 13.89% of the students use 3 or 5 cigarettes. In the last 12 months 69.77 % of students tried to quit smoking or using tobacco products.

Table 4: Age at Smoking Initiation

4.2 Bivariate Analysis

A variety of variables were tested for significance at the $p<0.05$ level. Variables were tested against the outcome variable smoking status, and also against other variables of interest to test for inter - variable relationships.

Table 5: Chi Square 2 x 2 Tests of Significance

Variable One	Variable Two	X^2 Observed	X^2 Critical	Decision rule (Significant)
Smoking status	age (A1)	3.27	$p<0.05 = 3.84$	no
Smoking status	sex (A2)	2.89	$p<0.05 = 3.84$	no
Smoking status	job (A3)	0.63	$p<0.05 = 3.84$	no
Smoking status	religious tobacco use (A4)	0.05	$p<0.05 = 3.84$	no
Smoking status	boy/girl friend (A5)	4.80	$p<0.05 = 3.84$	yes
Smoking status	pets (A6)	0.87	$p<0.05 = 3.84$	no
Smoking status	friends who use tobacco (B2a)*	4.14	$p<0.05 = 3.84$	yes
Smoking status	in general I like the way I am (D1a)*	0.07	$p<0.05 = 3.84$	no
Smoking status	hours of TV/DVD/ video watching/day (E2)*	2.13	$p<0.05 = 3.84$	no
Smoking status	gambling for money (E3g)*	2.39	$p<0.05 = 3.84$	no
Smoking status	gambling not for Money (E3h)*	0.06	$p<0.05 = 3.84$	no
Smoking status	computer at home (E5)	1.21	$p<0.05 = 3.84$	no

Con't...

Smoking status	primary caregiver tobacco use (G2)	6.10	$p<0.05 = 3.84$	yes
Smoking status	how many times/ week do you eat breakfast (H2)*	4.48	$p<0.05 = 3.84$	yes
Smoking status	weight goals (H3)*	0.01	$p<0.05 = 3.84$	no
Age	primary caregiver tobacco use (G2)	0.15	$p<0.05 = 3.84$	no
Sex	primary caregiver tobacco use (G2)	1.67	$p<0.05 = 3.84$	no
Age	religious tobacco use (A4)	6.69	$p<0.05 = 3.84$	yes
Sex	religious tobacco use (A4)	0.00	$p<0.05 = 3.84$	no

*** Indicates variables that have been collapsed for analysis in a 2 x 2 table.** (Variables collapsed as follows; **B2a** 1+2 and 3+4; **D1a** 1+2+3 and 5; **E2** 1+2+3 and 4+5+6; **E3g** 1+2 and 3+4; **E3h** 1+2 and 3+4; **H2** 1+2 and 3+4; **H3** 1+2+3 and 4)

The Chi Square 2 x 2 tables show that in this sample five variables have relationships that are significant at the $p<0.05$ level. Four variables are directly predictive of smoking behaviour and one variable is predictive of age and tobacco use in religious ceremonies. Students who have a boyfriend or girlfriend have a statistically significant lesser chance of being smokers. Students who have smoking friends have a significantly increased chance of being smokers themselves (smokers have a significantly higher number of smoking friends than non smokers). Students who live with a tobacco using caregiver have a statistically significant chance of being a smoker themselves. Students who eat breakfast zero to two times a week have a significantly increased chance of being smokers versus those who eat breakfast three to seven times a week. In

this study tobacco use in religious ceremonies was not correlated with smoking status, however there for students aged 15+ there is a greater chance that they will use tobacco in a religious ceremony versus students aged 14 and under.

Table 6: Two Group Chi Square Tests of Significance

Variable One	Variable Two	X^2 Observed	X^2 Critical	Decision rule (Significant)
Smoking status	"I have many friends"(B1a)	9.39	$p<0.05 = 9.49$	no
Age	"others my age want to be my friend"(B1c)	3.77	$p<0.05 = 9.49$	no
Sex	"others my age want to be my friend"(B1c)	3.44	$p<0.05 = 9.49$	no
Smoking status	"others my age want to be my friend"(B1c)	2.70	$p<0.05 = 9.49$	no
Age	school enjoyment(C1)	7.79	$p<0.05 = 9.49$	no
Sex	school enjoyment(C1)	5.18	$p<0.05 = 9.49$	no
Smoking status	school enjoyment(C1)	1.85	$p<0.05 = 9.49$	no
Smoking status	physical activity (E1)	2.78	$p<0.05 = 9.49$	no
Age	health(H1)	1.26	$p<0.05 = 9.49$	no
Sex	health(H1)	7.39	$p<0.05 = 9.49$	no
Smoking status	health(H1)	19.99	$p<0.05 = 9.49$	yes

In the two group chi square test for significance the only variables that had a

significant relationship were smoking status and health. Smokes rated their health as good, fair or poor more than students who are non smokers. Students who are non smokers rated their health as good, very good or excellent, significantly more than students who are smokers.

4.3 Logistic Regression

A logistic regression was run to determine if identified variables might have a relationship that predicts likelihood of smoking behavior.

Table 7: Linear Regression Analysis

Source (Variable)	DF	Type III SS	Mean Square	F Value	Pr > F
Agegrp	1	0.53516835	0.53516835	3.78	0.0595
sex	1	0.00722348	0.00722348	0.05	0.8225
bf_gf	1	0.32987707	0.32987707	2.33	0.1354
pets	1	1.05330222	1.05330222	7.44	0.0097
reltob	1	0.06369646	0.06369646	0.45	0.5066
B1c	4	0.75375171	0.18843793	1.33	0.2767
g2	2	0.30824507	0.15412254	1.09	0.3472
h1	4	3.31826007	0.82956502	5.86	0.0009

Table 8a: Analysis of Maximum Likelihood Estimates

Parameter	DF	Standard Estimate	Wald Error	Chi-Square	Pr > ChiSq
Intercept	1	6.2438	1.9582	10.1670	0.0014
agegrp	1	-1.5618	0.7889	3.9194	0.0477
h1	1	-1.6664	0.4582	13.2286	0.0003

The results of the logistic regression analysis suggest that smoking status can be predicted if data is known about age group (<14, 15+ years), and self reported health ("In general you would say your health is": 1 - excellent, 2 – very good, 3 – good, 4 – fair, 5 – poor). The equation to predict smoking status is:

smokestatus = -1.6(agegrp) - 1.7(h1) + 6.24

To use this calculation the age data must be coded 1 – for students age 14 and under, and 2 – students aged 15 plus. When using this equation it is important to note

that a negative value result indicates a significant (P<0.0001) risk of the individual being a smoker, and positive value result indicates a significant (P<0.0001) protecting factor against tobacco use. This equation was tested (n=79) against the data from this study and predicted significant results (P<0.0001) for a cohort of Inuit youth, however it has not been tested against other data so the equation is not reliable outside of this study until tested further.

In a second logistic regression analysis, separated by sex, a predictive equation was found for female Inuit youth in this cohort.

Table 8b: Analysis of Maximum Likelihood Estimates

Parameter	DF	Standard Estimate	Wald Error	Chi-Square	Pr > ChiSq
Intercept	1	0.4938	1.6763	0.0868	0.7683
sex (f)	1	0.6099	0.4083	2.2314	0.1352
B1a	1	0.6802	0.4237	2.5770	0.1084
h1	1	-1.5440	0.4475	11.9056	0.0006
h2	1	0.7241	0.3948	3.3649	0.0666

This equation, similar to the previous equation, predicts the smoking status of female Inuit youth based on the variables H1 and H2. Variable H1 is self reported health status, the data is collected using a five point Likert scale and was analyzed with a two group chi square test for significance. The second variable, H2 is "how many times a week do you eat breakfast?" In this study the data were collected with a four point scale (1 – never, 2 – 1 or 2 times/ week, 3 – 3 or 4 times/ week and 4 – everyday); the data was analyzed by collapsing the scale and pairing together answers 1 and 2 together and 3 and 4. The data was broken into youth who eat breakfast two or less times a week or 3 or more times a week. The data was then compared in a 2 x 2 chi square table against smoking status to decide if eating breakfast was a significant predictor of smoking status.

The equation was tested against (n=42) female participants and the equation is significant for ($P<0.0001$) the cohort. The equation to predict female Inuit youth smoking is:

smokestatus = -1.544(H1) + 0.7241(H2)

This equation is limited though; the equation is only a significant predictor of female Inuit youth smoking. The equation is not a significant predictor of male Inuit youth smoking. The data from this study did not produce an equation that was significant for predicting male Inuit youth smoking.

Chapter Five: Discussion

The original Aboriginal Youth Lifestyle Survey used by Ritchie (2004) identified four variables that had a statistically significant chance of predicting smoking behaviour: age of smoking initiation, self – esteem, peer smoking and being involved in the North American Indigenous Games (the location of the cross-sectional study) – suggesting participation in organized sport was a protective factor against tobacco use. The author stated that physical activity itself was not significant in influencing smoking behaviour, however the author questioned whether games participation was the true protective factor in the study or could physical activity and organized sports together be the protective factor against tobacco use. In the discussion section of Ritchie's paper she mentions that further studies should be carried out with Métis and Inuit youth to determine if similar results can be revealed. The purpose of this study was to determine if variables identified in the literature and previously tested with a large sample (n=570) could predict tobacco use among Inuit youth. In this study a number of variables were tested as descriptive statistics and further tested in bivariate analysis and logistic regression to determine if significant relationships existed between variables.

5.1 Smoking Status

According to the First Nations and Inuit Health Branch (2005) more than 70% of Inuit adults aged 18-45 use some form of tobacco, and 46% of those individuals started smoking before the age of 14. The Canadian Tobacco Use Monitoring Survey (2006) predicts that among youth tobacco use rates are 18% - however this information is not inclusive of data from the Canadian territories. In this study of youth aged 12 – 19 68.35% of youth reported being a regular smoker at one time with 42% of students

reporting current regular smoking. In this study smoking status was correlated with five variables: having a boyfriend or girlfriend, having friends who use tobacco, living with a smoking caregiver, eating breakfast two or less times a week and low self - reported health status.

Students were asked to report if they have a boyfriend or girlfriend and this data was compared in a bivariate analysis to rates of smoking. In this group students who reported having a boyfriend or girlfriend had a statistically significant ($p<0.05$) chance of not being a smoker. In this study smokers had a higher number of smoking friends than non smokers. Students were also asked if they lived with a caregiver who smoked. Students who reported they lived with a smoking caregiver had an increased risk ($p<0.05$) of being smokers themselves. Students who eat breakfast zero to two times a week have a ($p<0.05$) higher chance of being smokers that those who eat breakfast three – seven times a week. Finally, students were asked to report their health on a Likert Scale from 1 (excellent health) – 5 (poor health). Students who rated their health between 3 – 5, good – poor, had a statistically significant chance of being smokers. The findings of this study support the known predictors of tobacco use, in non-Aboriginal youth, of peer pressure and parental modeling (D'Onofrio, Moskowiz, Braverman, 2002).

5.2 Friends

The Surgeon General's Report (1994) lists, among other factors, that associating with peers who use tobacco is a general risk factor for youth to begin smoking. Godel and Nicole (1999) and Ritchie (2004) also report peer smoking is a risk factor for youth. In this study 41% of youth said "a few" of their friends smoke, and 27.85% of students said "most" of their friends smoked. The results of this analysis show that peer smoking

is a risk factor for youth smoking among Inuit youth in Cambridge Bay. Youth who were smokers had a higher number of smoking friends.

5.3 Personal Feelings

The literature surrounding self - esteem as a predictor of tobacco use is inconsistent (Ritchie, 2004). In this study original items assessing self - esteem were included for the purpose of "painting a clear picture" of the study participants; however when analyzed the self - esteem predictors had no significant impact on smoking status and there was no significant differences between gender and reported self - esteem or ability to make friends, neither did age affect self - esteem. In this study self - esteem was not a significant predictor of smoking status. The variable D1a "In general I like the way I am" when compared to variable F4, smoking status, did not show a significant correlation. This study supports Ritchie's (2004) conclusion that the use of self - esteem indicators as a measure of tobacco use predictability is not consistent. From a qualitative perspective the youth in this study had an overall healthy self - esteem. Seventy – one percent of youth reported that in general they liked the way they were; 58.23% of youth felt overall they had a lot to be proud of; 48.1% of youth felt a lot of things about themselves were good; and 50.63% of youth liked the way they looked. The demographic analysis of self-esteem indicated youth feel good about themselves and there is no correlation between self - esteem and using tobacco, or abstaining from tobacco use.

5.4 Activities

Overall students in the study were not very physically active; only 31% of students felt that they were as active as others their age and 36.7% of students watch TV,

videos or DVDs 1 -2 hours/day. Seventy – seven percent of students have a computer at home and 73.33% of students use their computers for surfing the internet or playing games 0 – 3 hours a day.

Yakiwchuk et. al. (2005) and Ritchie (2004) studied a sample of Aboriginal athletes; the authors suggest that participation in organized sports could be a protective factor against tobacco use in a population known to have high smoking rates. Thirty – five percent of students participated in organized activities with a coach four or more times a week. In this study five activity indicators were tested for significant relationships with tobacco use and none of the five indicators had a significant relationship or ability to predict tobacco use. Personal physical activity compared to peers; average TV/DVD/video watching time; gambling for money and for fun (no money); and having access to computer at home all are not predictive of tobacco use. The results of this study are not consistent with the outcomes of the research of Yakiwchuk et. al. (2005) or Ritchie (2004). The author suggests that improving the potential opportunity for involvement in athletic activities, as well as non-athletic club activities, could provide Inuit youth with a constructive, healthy and socially engaging opportunity. The opportunity could foster the potential to lower tobacco use rates as previous studies have found that athletic participation is a protective variable against tobacco use. Improving athletic participation could benefit students in terms of physical health and tobacco cessation.

5.5 Family and Household

In a qualitative analysis of 144 American Indian teens, youth felt having smokers in their homes influenced them to try smoking and that many of the youth obtained their

first cigarettes at home (Ritchie, 2004, pg.27). Godel (2006) reports that access to cigarettes is one of the best predictors of future smoking behaviour; in 2004 5% of under-aged smokers accessed cigarettes from their friends or family. In this study having smoking caregivers was a significant predictor ($p<0.05$) of youth smoking. In the logistic regression two variables, caregiver smoking and self reported health are found to be significant predictors of tobacco use in youth. This study supports the previous work predicting caregiver tobacco use as a risk factor for tobacco use among Inuit youth.

5.6 Health

Self - reported health status was statistically significant ($p<0.05$) in predicting tobacco use in the students in this study. Students who reported their health as good – poor were more likely to be smokers than those who reported their health as good – excellent. Students rated their health as excellent, 27.27%; very good, 34.68%; good, 28.57%; fair, 14.29%; and poor, 5.19%. Only 7.69% of students said they never eat breakfast, 28.21% said they eat breakfast 1 – 2 times a week, 7.69% said they eat breakfast 3 – 4 times a week, and 56.41% said they eat breakfast everyday. The number of times a student eats breakfast each week was a predictor of tobacco use in this study. Youth who ate breakfast zero – two times a week had a higher chance of being smokers than those who ate breakfast three – seven times a week. In a logistic regression test, a predictive equation for female smoking status was found. In this study, the smoking behaviour of female Inuit youth can be predicted using self – reported health status and the number of times a student eats breakfast each week. The same equation was not a significant predictor of tobacco use for male Inuit youth. The author suggests that future

research could investigate further the reasons why breakfast consumption and self – reported health are capable of predicting female smoking and not male smoking.

The majority of students said they were trying to lose weight, 39.74%; 10.26% were trying to gain weight; 21.79% wanted to maintain their current weight; and 28.21% were not concerned about their weight. In this study the weight goals of youth were tested against smoking status to determine if a significant relationship existed. The variable was collapsed into two groups for a chi square analysis; the first group represented all youth who had a goal (to lose, gain, or maintain weight) and the second group represented those who were not trying to do anything about their weight. This variable was not a significant predictor of tobacco use. In this community weight concerns are not a common issue among smokers, nor are they common (protective) among non-smokers.

5.7 Study Strengths

This study used a mixed methodology in order to respect the principles of CBPR and maintain the simplicity of data collection by using a survey approach. The community focus group provided valuable insight into the situation of the youth in their community, edited numerous versions of the survey tool for appropriateness and provided connections within the school for the researcher to access the students. The methods used in this study allowed the researcher to interact in a meaningful way with the members of the community, and present a survey that was approved by professional people with an interest in research that could be used to help improve the condition of youth in their community. The mixed method used in this study was strength; it increases

the intrinsic value of the study, includes community directed research ideas, and considers cultural appropriateness and sensitivity.

The survey instrument has been tested in a previous research project, with a similar population. Using a tool that has been tested previously increases the reliability that the instrument is capable of gleaning the information the research intends to collect. The focus group identified areas of the previous survey that needed to be rewritten and thus ensured that the survey used to gather data would be appropriate for the audience.

This study uncovered five predictors of tobacco use in the youth in Cambridge Bay. This information will be valuable in planning future health education programs. The outcome of this study will provide community health advocates information that they did not previously have, which can be used to target specific variables that encourage tobacco use in their community. Providing tangible, usable, and significant information to the community health advocates is the greatest strength of this study.

5.8 Limitations

This study is limited by both population and age group. The results of this study are only relevant to the community of Cambridge Bay because participants were not included from other Inuit communities. In the future the research design and survey tool could be re-used in another Inuit community; a new community focus group could examine the survey to determine if it is appropriate for use in their communities.

The study results are limited by researcher bias, and identified interests of the community focus group. There are more than 69 individual variables in the study which leads to an unmanageable number of possible variable comparison combinations. The researcher and focus group decided which variables were of the most interest for

bivariate analysis, and completed a descriptive analysis of the other variables to include in the report. There are potentially other variables that have statistically significant relationships that were not identified in this project due to the smaller, community focused scope.

Other limitations of the study include the lack of personal contact the researcher had with the study participants, although through the community focus group approach the researcher was able to interact with the community in a meaningful way. Personal interviews and follow-ups with the students would be a positive way to disseminate research findings and present the case for community based education and tobacco cessation programs; however the resources available to the researcher make travel to and accommodation in Cambridge Bay impossible.

In the previous study the researcher identified validity as a possible limitation of the study due to the close – ended questions (Ritchie, 2004). In order to improve validity the researcher incorporated the suggestions of the focus group who edited the survey for readability and relevance of the questions for the intended audience. Forty – seven percent of the students said the survey was "fairly easy" to read and understand, and 46% of the students said the survey was "very easy" to read and understand. Sixty – four percent of students said the length of the survey was "about right" and 19.23% said the survey was "a bit too long". Overall students were able to understand the questions and found the length of the survey to be palatable.

5.8 Implications for Policy and Planning

Considering the known risks of tobacco use, and the findings of this study, the author suggests that it is imperative that educating youth about the risk of tobacco use,

and exposure to second hand smoke begin early in the education system. In this study the average age of tobacco use initiation was 12 years old with youth reporting tobacco use as young as three, five and seven years old. The data of the present study support earlier work by Ritchie (2004) which identified previous studies that reported tobacco control efforts should begin as early as kindergarten, in this population group this initiative would be appropriate.

This study also demonstrated that for Inuit youth in this community, tobacco control efforts must focus on the role of relationships both familial and peer related when addressing tobacco cessation. Three of the five significant indicators of tobacco use in the community studied here were directly related to personal relationships. This finding suggests group counselling, family targeted media campaigns or peer support groups could be effective ways of addressing the need for relationship centred cessation programs. Ritchie (2004) reported similar findings and stated "as the variable for peer smoking produced the highest odds ratio, an effective tobacco control program for youth should incorporate this finding by, for instance, placing a lot of emphasis on resisting peer pressure" (Ritchie, 2004, pg. 75).

5.9 Implications for Future Research

The author suggests that future research should continue to investigate the social factors that contribute to Inuit youth smoking, with a particular focus on personal relationships as three of the five significant predictors of smoking behaviour in this study are directly related to personal relationships. Researchers should continue to investigate factors which may be linked to low self - reported health status including research on schedules, especially among young females within Inuit populations.

5.10 Recommendations

More research is desperately needed with remote Inuit populations. Researchers need to consider the variety of community circumstances and geography when planning projects in remote communities and it is suggested that including a community focus group to help drive the planning and implementation of a research project will make the experience more valuable for all involved.

The author suggests that future research considers the outcomes of this project; the identified variables that predict Inuit youth smoking; to try and identify consistent themes in the population. One area of interest that this study could not fully assess is the impact of relationship partners on the lives of youth and autonomous decision making. There is the potential to study how a personal relationship supports or influences decisions about health and health outcomes and to study how relationships influence health decisions at different ages. The cohort in this study was not large enough to determine if there was a difference in smoking status related to presence or absence of a personal relationship at different ages; in the future this could produce important information regarding timing of education about healthy relationships to encourage healthy lifestyle and tobacco cessation from another educational angle. If consistent themes can be identified in a larger sample of Inuit communities then the body of knowledge will expand and improve the best practices of health care providers giving advice, and planning tobacco cessation programs for this population.

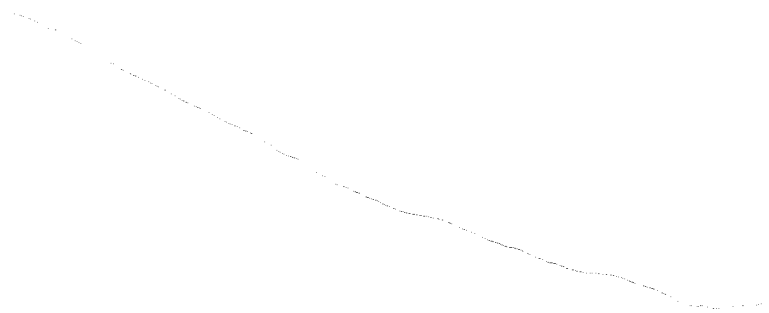
Canadian tobacco research must focus on Inuit youth, a population that has been marginalized in the research. In order to improve health outcomes for all Inuit people tobacco use must be addressed by health care providers and researchers. The rates of

tobacco use among Inuit youth far exceed those in the rest of the country and it is unacceptable for researchers to not work to improve health conditions among all Inuit people.

5.11 Conclusion

This study found that a high proportion of students aged 12 -19 years old in Cambridge Bay were self – reported one time smokers, 68.35% and 42% of students are current smokers in the community. The average age of smoking initiation in Cambridge Bay is 12 years old (57.14%), which is the same peak smoking initiation age from Ritchie (2004). This study found that having a boyfriend or girlfriend is a significant protector against smoking; having friends and primary caregivers who smoke is a predictor of smoking behaviour; and lower self – reported health status, including not eating breakfast regularly is a significant predictor of smoking behaviour. The other variables were not significant predictors of tobacco use.

The study revealed two equations that are useful, within this study group, for predicting smoking behaviour. The first equation predicts smoking behaviour for all youth in Cambridge Bay based on age group and self – reported health status. The second equation predicts smoking behaviour for female Inuit youth based on self – reported health status and breakfast consumption. Self – reported health status appears to be very valuable in determining individual risk for tobacco use. In the future these equations could be used as estimators, in other research, by health care providers in planning and implementing health services for Inuit youth.



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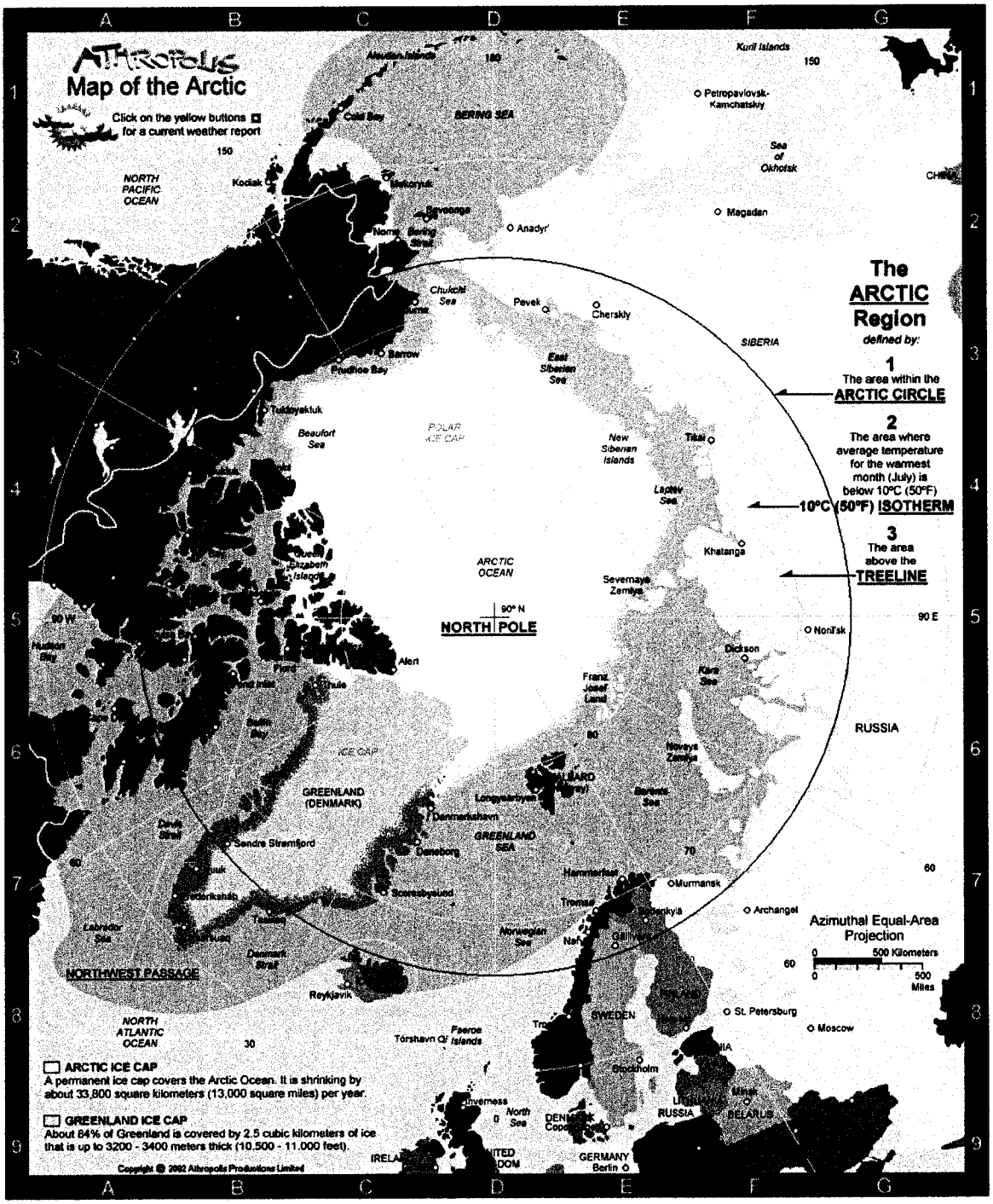
APPENDIX A

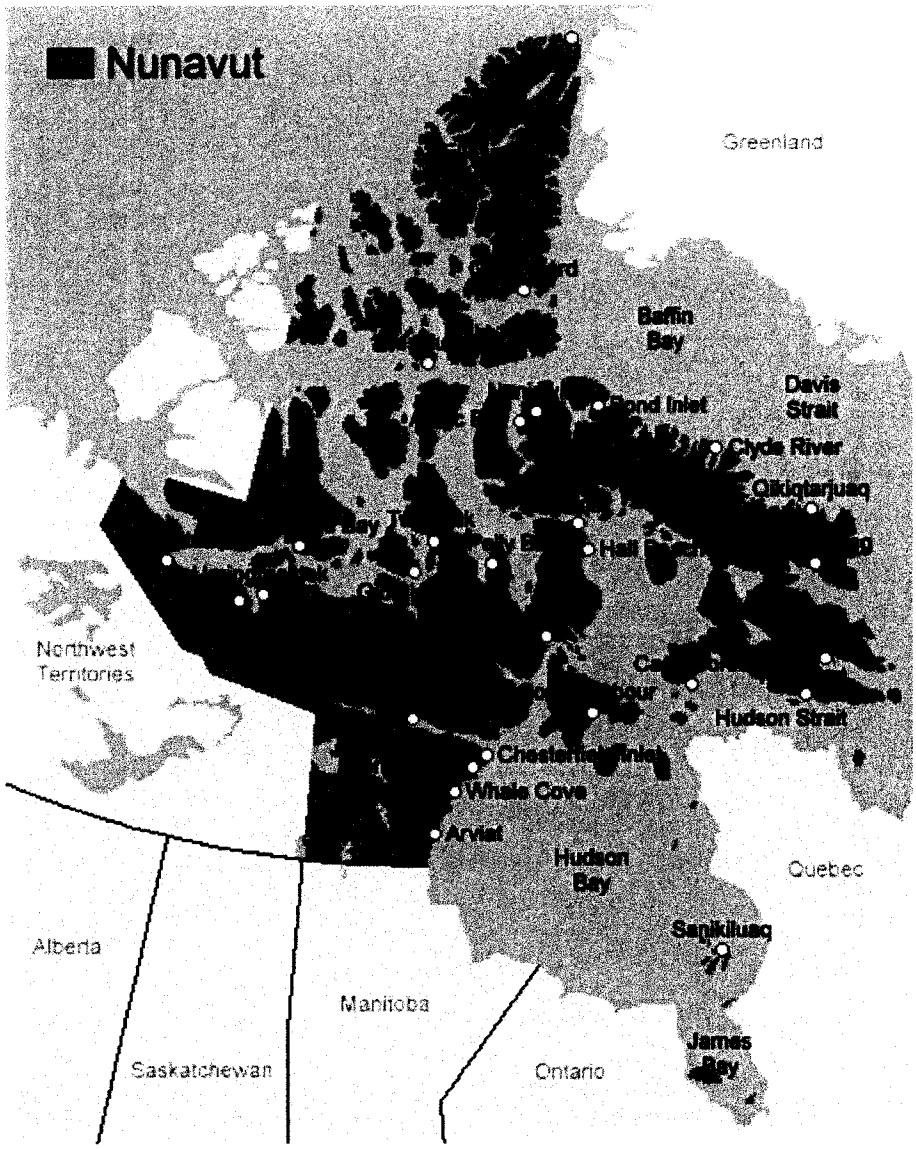
Map of the Circumpolar Arctic



The Circumpolar Arctic
Map retrieved from, http://www.athropolis.com/map2.htm

APPENDIX B

Map of Nunavut



Nunavut Map
Map retrieved from, http://www.athropolis.com/map-nunavut.htm

APPENDIX C

Adapted from Ritchie, 2004

Inuit Youth Tobacco Use Survey

Section A: Demographics

A1) Age:_____

A2) Are you? **Male** □ **Female** □

A3) Do you have a job? **Yes** □ **No** □
If you answered yes, what kind of job do you have?_____

A4) Do you use tobacco in your religious celebrations? **Yes** □ **No** □

A5) Do you have a boyfriend or girlfriend? **Yes** □ **No** □

A6) Do you own any pets? **Yes** □ **No** □

A7) What languages do you speak? _____

Section B: Friends

B1) Please answer the following statements about you and your friends/ others your age:

	True	**Mostly True**	**Sometimes True/ Sometimes False**	**Mostly False**	**False**
a) I have many friends.	1	2	3	4	5
b) I get along easily with others my age.	1	2	3	4	5
c) Others my age want to be *my* friend.	1	2	3	4	5

B2) How many of your close friends do the following:

	All	**Most**	**A Few**	**None**
a) Smoke cigarettes or use another tobacco product?	1	2	3	4
b) Drink alcohol?	1	2	3	4
c) Have tried marijuana?	1	2	3	4
d) Have tried drugs other than marijuana?	1	2	3	4

Section C: School

C1) How do you feel about school?

1 □ I like school very much
2 □ I like school quite a bit
3 □ I like school a bit
4 □ I don't like school very much
5 □ I hate school

C2) How important is it for you to do the following in school:

	Very Important	Somewhat Important	Not Very Important	Not Important at all
a) Make friends?	1	2	3	4
b) Get good grades?	1	2	3	4
c) Participate in extra-curricular activities?	1	2	3	4
d) Show up for class on time?	1	2	3	4
e) Learn new things?	1	2	3	4
f) Express your opinion in class?	1	2	3	4
g) Take part in student council or other similar groups?	1	2	3	4

C3) How do you like the following subjects:

	I like it a lot	I don't like it very much	I hate it	I don't take it
a) Math	1	2	3	4
b) Science	1	2	3	4
c) English	1	2	3	4
d) French	1	2	3	4
e) Inuinnaqtun	1	2	3	4
f) History	1	2	3	4
g) Phys-Ed.	1	2	3	4
h) Fine Arts (music, drama)	1	2	3	4

Section D: About Me

D1) Choose the answer that best describes how you feel:

	True	Sometimes True	Sometimes False/ Mostly True	Mostly False	False
a) In general, I like the way I am.	1	2	3	4	5
b) Overall I have a lot to be proud of.	1	2	3	4	5
c) A lot of things about me are good.	1	2	3	4	5
d) When I do something I do it well.	1	2	3	4	5
e) I like the way I look.	1	2	3	4	5

Section E: Activities

E1) How physically active are you compared to others your own age and gender?

1 ☐ Much more active
2 ☐ More active
3 ☐ Same
4 ☐ Less Active
5 ☐ Don't know

E2) On average, about how many hours a day do you watch TV, videos or DVDs?

1 ☐ I don't watch TV
2 ☐ Less than 1 hour a day
3 ☐ 1 or 2 hours a day
4 ☐ 3 or 4 hours a day
5 ☐ 5 or 6 hours a day
6 ☐ 7 or more hours a day

E3) Outside of school, in the last 12 months, how often have you:

	4 or more times a week	**1 to 3 times a week**	**Less than once a week**	**Never**
a) Played sports or participated in physical activities **WITHOUT** a coach or an instructor (e.g. biking, skateboarding etc.)?	1	2	3	4
b) Played sports **WITH** a coach or instructor (e.g. basketball, baseball, hockey etc.)	1	2	3	4
c) Taken part in dance, gymnastics or another group or lesson (**OUTSIDE** of school)?	1	2	3	4
d) Taken part in art, drama or music groups, clubs or lessons (**OUTSIDE** of school)?	1	2	3	4
e) Taken part in clubs or groups such as Guides or Scouts, 4-H club, community, church or other Religious groups?	1	2	3	4
f) Had a hobby or craft (e.g. drawing, model building etc)?	1	2	3	4
g) Played gambling games **FOR** money (e.g. cards, dice, or other casino games)?	1	2	3	4
h) Played gambling games **NOT** for money (e.g. cards, dice or other casino games)?	1	2	3	4

E4) **EXCLUDING** for school or for work, how often do you:

	Daily	**Weekly**	**Monthly**	**Several times a year**	**Never**
a) Use a public library?	1	2	3	4	5
b) Write letters, poetry, stories, journals etc?	1	2	3	4	5
c) Read newspapers or magazines?	1	2	3	4	5
d) Read books?	1	2	3	4	5

E5) Do you have access to a computer at home?

1 ☐ Yes
2 ☐ No

E6) How many hours a day do you use your computer for playing games or surfing the internet?

1 ☐ 0 – 3 hours
2 ☐ 3 – 6 hours
3 ☐ 6 – 9 hours
4 ☐ More than 9 hours/ day

E7) How many hours a day do you use your computer for school or your job?

1 ☐ 0 – 3 hours
2 ☐ 3 – 6 hours
3 ☐ 6 – 9 hours
4 ☐ More than 9 hours/ day

Section F: Smoking and Tobacco Use

F1) Have you ever tried cigarette smoking, even just a few puffs, or another kind of tobacco product?

1 ☐ Yes **GO TO QUESTION F2**
2 ☐ No If you have never tried cigarettes or another tobacco product, please rank the reasons, from 1- 6 (1 being the MOST important reason, 6 being the LEAST important reason) why you NEVER tried smoking cigarettes or another kind of tobacco product:

____ personal choice
____ parental or family influence
____ want to stay healthy
____ tobacco is un-cool
____ do not want to spend money on cigarettes/tobacco
____ smoking/tobacco is not important to my friends

*******GO TO SECTION G********

F2) How old were you when you smoked cigarettes or used tobacco for the first time?
I was _____ years old.

F3) What is your favorite kind of tobacco product (e.g. cigarettes, chewing tobacco etc.)?
_____ is/are my favorite tobacco products.

F4) Do you still smoke cigarettes or use tobacco products?

→ **Yes** □ a) If you still smoke cigarettes or use tobacco, please rank the reasons, from 1 - 6 (1 being the MOST important reason, 6 being the LEAST important reason) why you STILL smoke cigarettes or use tobacco products:

____ personal choice
____ parental or family influence
____ don't care about staying healthy
____ to be cool or cooler
____ the cost is not important
____ smoking/tobacco is important to my friends

b) Have you ever smoked cigarettes or used tobacco daily, that is, at least one time every day for 30 days?

1 □ Yes
2 □ No
3 □ I don't know

c) On a day that you smoke or use tobacco, about how many cigarettes do you usually smoke or how many times do you use tobacco? _____ (number of cigarettes/uses of tobacco)

d) During the past 12 months, did you ever try to quit smoking cigarettes or using tobacco?

1 □ Yes
2 □ No
3 □ I don't know

*******GO TO SECTION G*******

→ **No** □ e) If you no longer smoke cigarettes or use tobacco products, please rank the reasons, from 1 - 6 (1 being the MOST important reason, 6 being the LEAST important reason) why you CURRENTLY DO NOT smoke cigarettes or use tobacco products:

____ personal choice
____ parental or family influences
____ want to stay healthy
____ tobacco is un-cool
____ do not want to spend money on cigarettes
____ tobacco is not important to my friends

Section G: Family and Household

G1) Who is your primary care giver (e.g. who looks after you the most?)_____
(e.g. both parents, mother, father, brother, sister, aunt, uncle, friend's parents etc.)

G2) Does that person (your primary care giver) smoke cigarettes or use tobacco?

1 ☐ Yes
2 ☐ No
3 ☐ Don't know

G3) How many people live in your house? _____ people live in my house.

G4) How many people, **including yourself**, are below the age of 21 in your household?
_____ people are below the age of 21 in my household.

G5) How many people in your household, **not including yourself**, smoke cigarettes or use tobacco daily? _____ people in my house smoke cigarettes or use tobacco daily.

Section H: Health

H1) In general, would you say your health is?

1 ☐ excellent
2 ☐ very good
3 ☐ good
4 ☐ fair
5 ☐ poor

H2) How many times a week do you eat breakfast?

1 ☐ never
2 ☐ 1 or 2 times a week
3 ☐ 3 or 4 times a week
4 ☐ every day

H3) Which of the following are you trying to do?

1 ☐ lose weight
2 ☐ gain weight
3 ☐ stay the same weight
4 ☐ I'm not trying to do anything about my weight

Section I: Money

I1) How do you usually spend your money (you can check more than one answer)?

Yes ☐ No ☐ Meals and snacks
Yes ☐ No ☐ Clothes, shoes
Yes ☐ No ☐ Cigarettes or another kind of tobacco product
Yes ☐ No ☐ Alcohol or drugs
Yes ☐ No ☐ Other things for myself (make-up, CD's, lottery, magazines etc.)
Yes ☐ No ☐ Going out (movies, arcades, parties etc.)
Yes ☐ No ☐ Activities or equipment (school supplies or school trips, music or sports lessons, computer supplies etc.)
Yes ☐ No ☐ Gifts for family and friends
Yes ☐ No ☐ Family expenses (groceries etc.)
Yes ☐ No ☐ Savings
Yes ☐ No ☐ Gambling (cards, casino games etc.)
Yes ☐ No ☐ Other, specify:_____

Section J: Help improve this questionnaire, what do you think?

J1) Overall, how did you find the questionnaire to read and understand?

1 ☐ not easy at all
2 ☐ not very easy
3 ☐ fairly easy
4 ☐ very easy

J2) What about the length of the questionnaire?

1 ☐ much too long
2 ☐ a bit too long
3 ☐ about right
4 ☐ too short

J3) Do you have any other comments (about this questionnaire, the research project or smoking in general or in your community)?

_____
_____
_____
_____
_____
_____
_____

Thank you so much for you time, your help is appreciated!

APPENDIX E

Parental/Student Consent Form

Consent Form

I, _____ (student) have read the cover letter regarding: A Study of the Social Factors Contributing to Youth Smoking in an Inuit Community. I am aware that this study will explore the social factors contributing to youth's smoking behaviour in my community. I am also aware that as a participant in this study I have the right to refuse to answer any questions and I also have the right to stop my participation at any time. I am aware that the results of this study will be written in a report and the report will protect my identity, privacy and confidentiality; I am aware that my name will never be used, and there is no way I can be identified in the report. I am aware that all completed surveys will be stored in a secure area at Lakehead University for seven years.

I, _____ (parent/guardian) have read the above cover letter and consent form regarding: A Study of the Social Factors Contributing to Youth Smoking in an Inuit Community. I give permission for the above named student to participate in this survey study.

_____ _____

Signed - student Date

_____ _____

Signed - Parent/Guardian Date

APPENDIX G

Principal's Consent Form

Consent Form

I, _____ (the principal of Kiilinik High School) have read the cover letter regarding: A Study of the Social Factors Contributing to Youth Smoking in an Inuit Community. I am aware that this study is meant to explore the social factors contributing to Inuit youth's smoking behaviour. I am also aware that the participants in this study have the right to refuse to answer any questions and they also have the right to terminate their participation at any time. I am aware that the results of this study will be compiled into a report and the report will protect each participant's identity, privacy and confidentiality completely; I am aware that my name will never be used, and there is no way I can be identified in the report. I am aware that all completed surveys will be stored in a secure area at the faculty of Public Health at Lakehead University.

_____ _____

Signed – Principal Kiilinik High School Date

APPENDIX H

Research Assistant's Consent Form

Research Assistant's Agreement

I _____ (guidance teacher – Kiilinik High School) have agreed to participate in a research assistant's capacity with Michelle Doucette on the project entitled: A Study of the Social Factors Contributing to Inuit Youth Smoking. I understand and agree to uphold the highest standard of respect for the community and participants in the study and I will maintain a constant focus on the ethical principles governing such research. I am aware that in keeping with the ethical standards of research with human subjects that I must ensure the confidentiality of all materials collected during the research process and I will respect the participant's privacy and right to withdraw from the study at any time.

_____ _____

Signed Date