PERCEIVED IMPACT OF PHYSICAL ACTIVITY ON HEALTH AND WELLNESS OF OLDER ADULTS IN NORTHERN BRITISH COLUMBIA

by

Amita Gabriel

Master in Commerce, University of Pune, India, 1994
Master in Personnel Management, University of Pune, India, 1996

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Abstract

This research rests on earlier research suggesting that there is a definitive connection between physical activity and the health and wellness of older adults. Aspects of this connection were examined through a qualitative research project with a sample of older adults in Prince George, the largest city in northern British Columbia, Canada. The research explored the experiences and perspectives of older adults about the impact of physical activity on their health and wellbeing. Using a purposeful sampling method, data was generated through focus group and in-depth interviews. The data generated was analyzed using thematic analysis. The following eight themes emerged from the data analyzed: (1) Enthusiasm to learn more about and be involved in physical activity, (2) Effects of northern climate on involvement in physical activity, (3) Prominent physical activity, (4) Impact of physical illness, (5) Reason for being involved in physical activity, (6) Reasons for not being involved in physical activity, (7) Physical activity contributes to good health, and (8) Other views on physical activity in the community.

The findings of this research are expected to benefit older adults, their families, and Northern Health and its agencies / programs involved in delivering services to older adults in Prince George and neighboring towns.
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Chapter 1: The Research

Introduction

Older adults are in a stage of life that is often associated with varying degrees of diminishing health and activity, and increased dependence. The Canadian Government's Human Resources and Skills Development website states that older adults comprise the fastest-growing segment of the Canadian population.

In 2010, an estimated 4.8 million Canadians were 65 years of age or older, a number that is expected to double in the next 25 years to reach 10.4 million older adults by 2036. By 2051, about one in four Canadians is expected to be 65 or over (Human Resources and Skills Development Canada, 2011).

Through a qualitative approach, this research elicits the perspectives of older adults in Prince George about the impact of physical activity on their health and wellbeing. Impact is defined as physical activity having a positive or negative effect on the health (feeling physically healthy and warding off the onset of chronic illness) and wellness (feeling active, alert and psychologically positive and confident) of older adults (World Health Organization [WHO], 2011). The findings of this research will be beneficial to older adults and their families as well as to Health agencies / programs involved in delivery of services to older adults in Prince George.

The Research

People age differently. The human body reaches full maturity and is at its strongest in early adulthood. From then on there usually is a gradual change in physical health. This change is influenced by both genetic / internal factors as well as external factors, such as lifestyle, nutrition, quality of health care, and environment. There are internal changes that are not
necessarily noticed until they begin to influence the activities of daily living and social interactions. For example, age related changes in the muscular system result in a decrease in strength and endurance. The degree of loss may depend on the frequency and intensity of physical activity (McPherson & Wister, 2008). The issue that I have investigated is how older adults living in Prince George, BC, Canada – a north-central community, perceive or experience how physical activity impacts their health and wellness.

Rationale for the Study

Living through the severe winter conditions in Prince George, BC has on several occasions made me think of the implications to health this relatively harsh environment may have on vulnerable people living with physical and mental health issues. My particular interest in older adults has inspired me to take this concern further by conducting research on the subject of the health and wellness of older adults, in particular, physical activity issues and aging.

While considerable research on issues relating to the health and well being of older adults has been undertaken, studies located in the North are relatively fewer in number. This may be because a majority of Canadians live in the South. The 2006 census (Statistics Canada, 2006), notes that an overwhelming 80% of Canada’s population lives in urban areas. Many Canadians live in the South, where health care services for older adults are relatively more readily available. Other services such as sporting and recreational facilities, family doctors, specialist medical professionals and so on too are fewer in the North when compared to those available in the South (Collier, 2006). Further, the weather is not as severe in the South as it is in Prince George.

Prince George is the largest city in northern British Columbia, and has been known as BC’s northern capital (City of Prince George, 2011, p. 1). The first pulp mill, Prince George Pulp and Paper, began operating on the outskirts of the city in 1964. Within two years another
couple of pulp industries, Northwood Pulp and Intercontinental Pulp, were established. People from diverse backgrounds came to work in the mills, and contributed to the emerging eclectic culture of the city (Christensen, 1989, p. 114). Many of those who may have joined the pulp mills in the mid 1960s have now retired and, along with their husbands or wives, comprise a large segment of the city’s older adults. According to Statistics Canada 2006, the older adult population in Prince George was 7,860. This was about 9.44% of the total population. The total population of Prince George in 2006 was 83,223 (Statistics Canada, 2006).

Significance of the Issue

The core issue in this research is the health and wellness of adults aged 65 years and older, and their connection to, and perceptions of, physical activity. Many factors contribute to health and wellness, just as there are many other factors that may diminish health and wellness. Older adults can obtain significant health benefits even with moderate levels of physical activity when done on a regular basis; activities such as walking, light physical exercise, gardening, and other indoor and outdoor activities. Research also suggests that with greater levels of physical activity one can accrue greater health benefits. Research has demonstrated that loss of strength and stamina attributed to aging, are in part caused by reduced physical activity. Being physically active helps maintain the ability to live independently. It reduces risks to life and health from falling. It keeps the heart and other vital organs healthy, and prolongs the onset of conditions such as high blood pressure. It reduces the symptoms of anxiety and depression and fosters improvements in mood and feelings of well-being. Physical activity helps maintain healthy bones, muscles, and joints and controls joint swelling and pain associate with arthritis (Jackson, Morrow, Hill, & Dishman, 2004, p. 301-309; Jones & Rose, 2005, p. 39-46). Based on the established knowledge of the positive contribution physical activity makes to health and
wellness, this study examines the perceptions of physical activity and its connection to health and wellness among older adults living in Prince George, BC.

**Research Question Investigated**

The central question of the research is: How do older adults living in Prince George perceive physical activity to affect their health (feeling physically in good health and warding off the onset of chronic illness) and wellness (feeling active, alert and psychologically positive and confident)? There are secondary questions that have also contributed to the investigation. These are the following: Do older adults think physical activity is necessary to maintain or improve health and wellbeing? What activities do older adults use to keep physically active? What hindrances are likely to keep some older adults from being physically active?

**Theoretical Framework**

I have applied a qualitative approach that is influenced by a constructivist view to gather information on the perspectives of older adults about the impact of physical activity on health and wellness. My epistemological belief is that knowledge is constructed by people through experiences and hence I was influenced by the constructivist philosophy as I did my research to gather information and it is this knowledge that I have developed into patterns to form meanings. A constructivist perspective involves developing patterns or theories from the many socially and historically constructed meanings of individual experiences (Creswell, 2003, p. 8-9). In a qualitative approach, the researcher studies a phenomenon by asking people about their perceptions, opinions, beliefs, and attitudes regarding the phenomenon. The researcher observes and understands the phenomenon in direct relation to how those who experience the phenomenon understand it (Denzin & Lincoln, 2005, p. 10-11). Thus the emphasis in such research is to highlight participants' perspective/s rather than impose a perspective from outside.
The constructivist approach, like the other approaches in the qualitative methods family, is person-centered, holistic (and not particularistic), contextual and in-depth (Padgett, 2008, p. 1-43).

The constructivist view in qualitative research has been adopted in this research also for the following reasons. Like other qualitative methods it prefers the inductive mode of study. It favors "naturalistic observation and interviewing" in order to construct the story (Padgett, 2008, p. 1-43). Such an approach induces proximity between researcher and the field of study, and reduces the scope for outside assumptions to permeate the study and its analysis.

This research was developed based on the perspectives and experiences of the participants, these perspectives were then developed into patterns to form themes. The findings are unique to the experiences of older adults in Prince George, BC, which in turn contributes to the uniqueness of the research. Yet, my findings have aligned with research that has already been established in the field, including the following: (1) there exists the reality of deteriorating physical and mental health with advancing age (Chipperfield, 2008, p. 349-357); (2) a deterioration of health need not be quick and inevitable (McPherson & Wister, 2008, p. 190-222); (3) it can be prolonged and even reversed; and sustained physical activity offers an effective means to the prolonging and reversal of deterioration in health in an individual's advancing years of life (McPherson & Wister, 2008, p. 190-222).

Definition of Terms

A few important words and phrases used in this study which are of vital significance for the research require defining. This is done below:

**Older adults.** Statistics Canada defines older adults or seniors as people who are 65 years and older (Dandy & Bollman, 2008, p. 1-56). Some researchers further classify older
adults into the following categories: ‘younger old’ as those in the age group of 65 – 74 years, ‘older old’ are those between the ages of 75-84 and ‘oldest old’ are those 85 years and older (Novak, 2006, p. 83). For the purpose of this research older adults were defined as people who are 65 years and over, which is the age when people normally retire from work and tend to lead more sedentary lives (Dandy & Bollman, 2008, p. 1-56).

**Physical activity.** This research uses the World Health Organization definition of physical activity. The World Health Organization (WHO) defines physical activity as “any bodily movement produced by skeletal muscles that requires energy expenditure” (World Health Organization [WHO], 2011). Physical activity also implies any bodily activity that maintains or enhances physical fitness and overall health (World Health Organization [WHO], 2011).

**Northern communities.** Northern communities are isolated, rural, and relatively thinly populated communities that are scattered over 80% of land mass in Canada’s northern region. Together they constitute only about 7% of the nation’s population (Statistics Canada, 2006). These communities tend to have a smaller population, relatively younger average age, and have higher population levels of Aboriginal people than those in the South. Northern communities are in general less economically diverse and have lower employment rates, lower educational levels, relatively poorer health, and occasionally higher crime rates (Conference Board of Canada, 2011; Delaney & Brownlee, 2009; Zapf, 1993). Prince George does not fully match this profile of a northern community. Yet, in relation to the lower mainland BC, it still bears the dominant features of a northern community in terms of relative population size, winter weather conditions, and scarcity of amenities. For this research, Prince George was considered as a northern community because it is located geographically north compared to cities in southern BC, thus reflecting the relativity of the concept “North” (Delaney & Brownlee, 2009).
Health and wellness. The World Health Organization (WHO) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organization, 2011).

In its list of conditions that express wellness, the Alliance Institute for Integrative Medicine in the United States includes the following: being emotionally stable, able to think clearly, being able to love, to create and embrace change, be intuitive, and be spiritually aware (Alliance Institute of Integrative Medicine, n.d.). Another American agency, The National Wellness Institute defines wellness as the ability to make choices for a successful life (National Wellness Institute, n.d.). For the purpose of this research, health and wellness incorporates elements of both definitions.

Summary

With Canada’s population aging substantially due to the “baby-boomer” bubble, the health of older adults has assumed increasing importance. Research that addresses impacts of physical activity on the health and wellness of older adults living in rural, remote and northern communities remains limited. This research examines if and how older adults in Prince George, BC see and experience any advantage to their health and wellness from physical activity.
Chapter 2: Literature Review

Research in the field of physical activity amongst older adults aged 65 years and over has been carried out since the mid 1980s. Most studies have been done in Western Europe, the United States and Canada. An overwhelming 98% of the findings attribute successful aging to a positive condition of mind and body. Most investigations provide clear and convincing evidence to demonstrate how physical activity delays the onset of diseases, promotes independence, and contributes to psychological wellbeing (Novak, 2006, p. 39-45). Novak provides a synopsis of recent research, especially in the western world, on the connection between physical activity and overall health. Many studies focus on the benefits of physical activity to the health of older adults, though a few examine physical activities' effect on the health of people with disabilities, those living with debilitating and chronic conditions, and others. According to a recent study conducted in northern BC, organizations catering to the needs of older adults are not able to do justice to their service objectives due to shortage of manpower and funding (United Way of Northern British Columbia, 2009). Findings of this study emphasize the importance of, and need to pay attention to, the subject of older adults' health and well being, especially in northern communities.

The Link of Physical Activity to Health and Longevity of Life

The particular connection between daily physical activity and health in older adults is the subject of an article by Judith Chipperfield (2008). Chipperfield demonstrates evidence of everyday physical activity (EPA) increasing longevity of life in older people. EPA, however, is not a constant. It tends to decrease with advancing age. Interestingly, Chipperfield’s research finds that the decrease is more prominent in men than it is in women. The article highlights the
importance of being physically active throughout life on a daily basis in order to experience
health and wellness in one’s advanced years (Chipperfield, 2008, p. 349-357).

De Souto Barreto’s (2009) review of 28 articles on physical activity and health suggests
that the articles establish that the physical health, functional and mobility abilities, as well as
psychological conditions of frail older adults can be improved by exercise intervention. Though
De Souto Barreto finds variations in how scholars define frailty, she utilizes Fried et al.’s (2005)
definition in which frailty comprises the five conditions of low physical activity level, weakness,
slowness, shrinking, poor endurance, and diminishing energy. The key implication De Souto
Barreto gleans from her review of the 28 articles – that physical exercise enables frail older adults
to recover physical and psychological wellbeing, complements the majority view in published
research that a physically inactive lifestyle is a chief indicator of frailty.

Research on the benefits of physical activity to healthy aging is rather recent, according
to authors McPherson and Wister (2008). They point out that it is only since the early 1990s that
experts have focused on studying the connection between physical activity and healthy aging.
The key to a healthy life as the years advance, according to the authors, is engagement in
physical activity that is equivalent of a brisk walk for 30 minutes most days of the week.
McPherson and Wister list six health benefits in old age which result directly from physical
activity. They are: “increased life satisfaction, confidence, increased self-worth; reduced
morbidity and mortality; reduced risk of cognitive impairment; improved physical health, and
functional ability, especially in flexibility, balance, strength, and endurance; less stress, and
depression; and a higher self-reported quality of life” (p. 205). McPherson and Wister also
present impressive detail of the growing trend since 1994 of people past middle age engaging in
leisure-time physical activity. Inactivity, according to the authors, is found to be more in
women, the less educated, those from lower income backgrounds, and those living in rural communities and small towns. The distinction also has a geographic character. Older people in western Canada are more active than their compatriots in eastern Canada. Older people’s increasing inclination in favor of being physically active has been found to be largely due to the following reasons: (1) awareness of the benefits of physical activity to health; (2) the positive role played by the media in spreading this knowledge; (3) society’s changing perceptions of older adults; and (4) older people’s self interest in maintaining an active lifestyle (McPherson & Wister, 2008, p. 204-205). McPherson and Wister’s research does not apparently address the other side of the issue - of sedentary lifestyles and their consequences on Canada’s aging population. Statistics of those suffering from chronic illnesses related to a sedentary lifestyle could have further strengthened the importance of what the authors have sought to convey about the merits of physical activity. Another related issue that needs addressing is that of diet. Diet directly affects physical activity. Certain foods contribute to obesity and diminished physical activity. Similarly eating in unrestricted quantities contributes to obesity and diminished physical activity. These behaviors can induce morbidity and the onset of chronic illnesses (French, Story, & Jeffery, 2001, p. 309-335).

Chappell, McDonald, and Stones (2008) take a comprehensive look at issues in gerontological studies. Of particular interest to this current research were the sections on physical activity (p. 167-190). The authors acknowledge that advancing age tends to cause muscular degeneration and adversely affects the functionality of vital organs. Though the onset of the degenerative process cannot be stopped entirely, they suggest that its effects can be slowed through correctional devices and through a positive attitude and active lifestyle. On a positive note they observe that since World War II physical activity among older adults has increased.
Yet about 25% of people above 65 years of age still suffer from chronic disabilities making them more likely to be physically inactive. In the case of the majority, i.e. 70% of the older population, physical competence is either diminishing or has been lost due to lack of physical activity. Only about 5% of the population over 65 years of age experience relatively good health and physical activity (Chappell et al., 2008, p. 189).

Stiggelbout, Popkema, Hopman-Rock, Greef, and Mechelen, (2004) conducted a study on 277 participants 65 years and older, to test their health related quality of life and their functional status. All 277 participants lived independently in the community. The study was conducted by administering an exercise program for the participants. Based on the findings of their research the authors recommend moderate physical activity for individuals 65 years and older. They argue that moderate physical activity reduces the chances of injury. The intensity of physical activity even in older people can be gradually increased. Hence it is just right, according to the authors, for older adults to start and continue with moderate physical activity until such time that they feel the need to increase it. The authors also observe that recent studies have shown that exercising at least once a week plays an important role in maintaining and improving physical health. Good physical health enables older adults to be independent and eliminates the need for short term or long term care services (Stiggelbout, et. al., 2004, p. 83-88).

In a quantitative study conducted over a 30 days period, Abell, Hootman, Zack, Moriarty, and Helmick (2005) focus their investigation on the benefits of physical activity to the good health of people suffering from arthritis or other chronic joint symptoms (CJS). The researchers found that those people with arthritis and CJS who did not engage in any physical activity were “1.2-2.4 times more likely to report impaired health related quality of life (HRQOL) compared with those who met physical activity recommendations” (p. 380). Even among those who were
physically active, but not sufficiently physically active, the study found a reduction in HRQOL. In contrast, the study found that those sufferers of arthritis and CJS who regularly performed the recommended levels of physical activity had significantly reduced physically and mentally unhealthy days. They also were not likely to have a severe impairment of physical or mental HRQOL. Drawing their information from other sources, Abell et al. observed that “regular physical activity can reduce arthritis related pain, improve function, and delay disability without promoting disease progression among persons with arthritis” (p. 380-385).

Segal, Crespo, and Smit, (1998) begin their article with a strong admonition in the title: *Active Seniors: Protect Them, Don’t Neglect Them*. The article is a report by three leading health professionals in the United States on the connection between activity and health of seniors in that country. It begins by reflecting on the casual approaches to health and life-style among American seniors and warns in the very first statement that “the public health issues that arise from a sedentary, aging U.S. populace … should be a cause for alarm” (p. 137). Based on nationwide numerical data on the percentages of men and women who were 65 years and older and their attitudes to physical activities the authors observe that the United States “is a nation of couch potatoes, becoming ever more potato-like as we age” (p. 137). They quote Bokovoy and Blair (1994) to stress the importance of physical activity to maintain good health in seniors. “Physical activity,” they write “plays an important role in improving mental health and in promoting a healthy, strong musculoskeletal system, enabling older adults to maintain an optimal level of functioning” (p. 137). Among the undesirable conditions that set in because of a physically inactive lifestyle, according to them, are “chronic and disabling diseases, premature aging, a loss of physical independence, and premature mortality” (p. 137-138). Segal, Crespo, and Smit rely on Bokovoy and Blair’s optimism in the contention that a deterioration of health
leading to its impairment can be stopped and reversed through an increase in physical activity (Bokovoy & Blair, 1994, p. 243-260). Segal, Crespo, and Smit also mention that good or bad health has immediate financial implications, not only for individual seniors but also for the country. A physically fit society does not burden the health care system of a country. On the other side, mounting health care costs can cripple the economy of the nation. The researchers highlight an area that is still largely untouched in studies on physical activity and health, namely injuries incurred from physical activity. They observe that the lack of adequate research on injuries incurred from physical activity, how to avoid them, and how to affect self-cure stops many physicians from recommending physical activity and causes seniors to hesitate at the point of considering physical activity. Those who have not been physically active for a long time are among the ones most reluctant to make a fresh start in being physically active. Fearing that they would increase the possibility of injury, sprains, aches, and falls to their patients, physicians sometimes do not recommend physical activity (Segal, et. al., 1998, p. 137-139).

The affirmation of physical activity's contribution to health and physical fitness continues with Haskell, Montoye, and Orenstein's (1985) research into how physical activity and exercise contribute to the betterment of health. Among the factors that bring about a positive change in health are the types of physical activity or exercise, their intensity, duration, and frequency. Yet these factors do not guarantee uniformity of results. In a few cases the authors have found these factors not to work. Large muscles, the authors write, are crucial to health and activity. These muscles when strong provide the body the ease of physical activity. They can be kept healthy and strong through repeated rhythmic action that enables the muscles to contract. The regular and patterned repeated action (or activity), preferably on a daily basis, must result in the expending of energy from 200 to 400 kilocalories (or 4 kilocalories per kilogram of body
weight). The activity or exercise must involve resistance and flexibility. However, according to
the authors over-exertion should be avoided because its results could be counterproductive and
damaging to health. The authors end with the suggestion that further research is required on
better specifying what particular aspects of physical activity and exercise contribute to better
health (Haskell et. al., 1985, p. 202-212).

An evaluation of a health program promoted among low income seniors was the focus of
research conducted at the University of Alberta. The 10-month program was called Active
Living in Vulnerable Elders (ALIVE) (Buijs, Ross-Kerr, Cousins, & Wilson, 2003). Those who
delivered the program visited seniors in their residential apartments to offer health information
sessions, provide printed material on the subject and conduct exercise classes. The program was
evaluated on the following three criteria: participatory response of the target audience; the
impact of the program on participating seniors; and, the overall working of the program. The
foremost reason for participation in the program was that seniors were aware that physical
activity and exercise contributed to good health, and hence were willing to engage in it and
obtain more information about it. The number one reason that kept some seniors from
participating in the program was a preoccupation with other activities that were deemed more
important. A general consensus of ‘feeling better’ overall (i.e., physically, mentally, and
socially) was the main impact of the program. A fun-filled, informal environment that allowed
for social interactions, autonomy and healthy staff-participant interactions contributed to making
the program effective. Participants’ comfort level with regard to the environment in which the
program was conducted was high. The authors evaluated the program’s success with the help of
Pender’s (1996) revised health promotion model (p. 93-107).
A national cross-sectional survey conducted at the University of Bristol involved 2,341 women between the ages of 60 and 79 from 15 British towns (Lawlor, Taylor, Bedford, & Ebrahim, 2002). The study sought to investigate if older women attained the new levels of physical activity recommended by the National Health Service of the United Kingdom, the types of activity that were recommended, and how the recommended levels of physical activity were achieved. The study found that over two-thirds of the women achieved the recommended levels of physical activity. This was done primarily through sustained participation in intensive household manual/physical work. Brisk walking for at least 2.5 hours a week helped avoid becoming overweight. The study found that there was a direct connection between a lack of physical activity and self-reported poor health, coronary heart disease, respiratory disease, and even aging. The study also found that women who smoked, had lower socio-economic status, or lived in northern Britain, were less likely to do brisk walking and physical exercise. But women belonging to these categories did not show a similar reluctance to doing intensive household work. Only women who suffered from depression were found not to be engaged in intensive household work. The study rested on the premise that "regular physical activity is associated with increased life expectancy and reduced risk of coronary heart disease, stroke, diabetes, hypertension and obesity" (p. 473-478).

Contextual Influence on Aging

Just as EPA is not a constant, the same is true for inactivity. Inactivity, unlike aging, can be reversed, and the reversal contributes to good health in older adults (Mechling & Netz, 2009). Mechling and Netz also suggest inactivity increases the prospect of chronic illness. Being physically active is a cost-effective means of maintaining good health. The authors contend that aging is not time related. Aging relates to an individual’s circumstances, and how the person
adjusts to especially troublesome and challenging circumstances. Lack of positive adjustment hastens the onset of morbidity which further contributes to the development of chronic illnesses. The authors observe that the resources available to restrict or delay normal aging (also called primary aging) are limited. But secondary aging which is dependent on internal and external circumstances can be manipulated through intervention measures. The key to health in one’s advanced years lies in successful aging. Successful aging, according to Mechling and Netz, is the condition in which one is happy and satisfied with one’s past, content with the present, and anticipates the future with enthusiasm and eagerness. Such a positive disposition of the mind, along with regular physical activity contributes to increased life expectancy. The emphasis in the phrase ‘increased life expectancy,’ according to the authors, does not solely refer to the duration of life (i.e., in the longevity of life). Its primary implication is to life’s quality. The authors show compelling evidence of physical activity succeeding in keeping dreaded illnesses of the heart, mind and of general physique at bay (Mechling & Netz, 2009).

The influence of circumstance on aging is also addressed by McPherson and Wister (2008). The authors emphasize that aging is more than a biological degeneration as the years accumulate. It is a complex social process with micro (individual) and macro (societal) dimensions.

Baker, Cahalin, Gerst, and Burr, (2005) argue that involvement in social activities contributes to meaning and purpose in life and results in general well-being. By examining time spent on meaningful social activities and relating it to corresponding levels of health, the authors conclude that the quantity of time spent in meaningful social activity has a direct connection to levels of well-being. In other words, with increased involvement in meaningful social activity the condition of health also increased in the participants. The researchers found that when
participants were engaged in productive activities they were also able to ward off symptoms of depression. The study was conducted on a sample of both men and women in America sixty years and older (Baker et. al., 2005, p. 431-458).

**Diminishing Physical Activity with Advancing Age**

Tuna, Edeer, Malkoc, and Aksakoglu (2009) established a connection between advancing age and receding physical activity and functional fitness. The study conducted in Turkey involving 229 people between the ages of 65 and 87 confirmed the presupposition that age affects functional fitness. The aspects of functional fitness evaluated in the research were body mass index (BMI), lower body strength (LBS), dynamic balance, and aerobic endurance. According to the researchers functional fitness refers to the ability to conduct one’s daily chores involving some physical movement and endurance without stress or fatigue. Functional fitness was found to be directly dependent upon the continued maintenance of physical activity. Hence while functional fitness declines with advancing age, physical activity levels do not have to. A person can continue to be reasonably active physically well into an advanced age. The results also showed that being active is beneficial to the younger older adults, (i.e., those below the age of seventy), in maintaining relatively good body mass index (BMI), lower body strength (LBS), and dynamic balance (Brach, 2009).

Tannenbaum, Ahmed, and Mayo (2007) focused on women’s attitudes to their own health and quality of life as they become older. Women, the authors observe, had a diminishing sense of health and quality of life. As women age their expectation of health related quality of life lowers as compared to when they were younger. Such a feeling, the authors note, was most prevalent in those women who were over the age of 70 years. The lowered expectations of health help older women to accept the fact that they cannot perform as well as they did when they were
younger. Those women who accepted the eventuality apparently avoided the disappointment and frustration that came with diminishing health and activity (Tannenbaum et. al., 2007, p. 593-605).

Diminishing physical activity contributes to declining productivity. Robertson and Tracy (1998) critically reviewed literature on age, health, and work. The review began with the popular assumption that productivity declined with advancing age due to declining health. By first studying how productivity was conceptualized and operationalized in society, and making a critical assessment of it, the paper then enquired into the popular assumption stated above. The paper found that the relatively new approach to the productivity of an aging workforce in the term ‘work capacity’ had the potential to make an accurate assessment. The paper also reflected on how the conceptual understanding it promoted would affect both corporate policy and society (Robertson, et. al., 1998, p. 85-97).

Barriers to Physical Activity in Older Adults

Jackson, Morrow, and Dishman, (2004) suggested that the process of aging begins from the time a person is conceived until death. Yet, people can assume a certain degree of control over the natural process of aging. That control is exercised through lifestyle choices (assuming choices are available). The authors observed that over 50% of older adults between the ages of 65 and 84 reported difficulties with activities in day-to-day living. The difficulties increased for those over 85 years of age. Difficulties noted by the authors are demographic, cognitive, environmental, and social in nature. However, older people responded positively to cardio-respiratory endurance training and strength training, known to increase strength in frail older people (Jackson et al., 2004).
Perspectives on Health and Activity among the Older Adults

Based in the Netherlands, Puts, Sherkary, Widdershoven, Heldens, Lips, and Deeg, (2007) explored the meaning of 'quality of life' for older frail and non-frail community dwelling adults. They argued that although the concept 'quality of life' is widely studied, there is no consensus in the scholarly community on what it means. This has inspired the authors to explore the many implications of the term through qualitative interviews conducted with 25 seniors. The interviews were analyzed using the grounded-theory approach. In the grounded theory approach, researchers do not begin with a hypothesis. They begin with data collection. The collected data is grouped under different though connected categories, and codified. In the final stage the categories are fused into one to create a new theory (Allan, 2003, p. 1-10). Analysis of the interviews enabled the researchers to identify five emerging themes: physical health, psychological well-being, social contacts, activities, and home and neighborhood. The researchers also observed that the quality of life among seniors in the Netherlands depended on the possibility of effective medical care, availability of financial resources and a car. Those seniors who compared themselves with other seniors who had lower socio-economical status tended to feel good about the quality of their own lives. The researchers observed that the factors that contributed to an enhanced quality of life were subject to change as mobility decreased with age and with the onset of debilitating conditions. Those who experienced such negative change were more likely to consider themselves as living a lower quality of life than other healthy and mobile seniors (Puts et al., 2007, p. 263-277).

Grembowski, Patrick, Diehr, Durham, Beresford, Kay, and Hecht (1993) endeavored to investigate a subject about which, according to them, little is known in research. Do seniors take measures to keep themselves healthy? What measures do they take to keep themselves healthy?
The researchers collected data from their target sample on the following issues: exercise, dietary fat intake, weight control, alcohol intake, and smoking. The data pointed to differences in health expectations that led the researchers to classify the issues into two groups. In the first group were exercise, dietary fat intake, and weight control; while in the next were smoking and alcohol intake. Those whose health behavior involved all five issues had a reduced level of self-efficacy from those who did not participate in the latter two issues, i.e. smoking and alcohol consumption. At a general level, the study demonstrated that those seniors who took care of their health in relation to all five issues tended to enjoy better health and warded off health risks more successfully. An individual’s socio-economic status affected health-related quality of life. Those who had stronger links with society and a more secure economic standing, tended to have a better health-related quality of life. Those who were determined to eat healthy, exercise, manage their weight, and avoid alcohol and smoking showed signs of improved health (Grembowski et al., 1993, p. 89-104).

Perspectives on What Contributes to Quality of Life

The objective of Rodriguez, Latkova, and Sun (2008) was to probe the connection between leisure and contentment in life. They indicated that their study is committed to the same quest that past research has been committed to. In the past, research has sought in a focused manner to investigate why some individuals or groups of individuals have a better quality of life than others. The study was conducted on a sample of residents from a Midwestern community in the United States. It was done using two theoretical frameworks, namely, the activity theory (leisure) and the need theory (life satisfaction based on a person’s assumed standard of life and the degree to which satisfaction is achieved). There was evidence available for both theoretical
perspectives, although a stronger connection between leisure and contentment in life was observable amongst those whose needs were satisfied (Rodriguez, et. al., 2008, p. 163-175).

Overview of Literature Reviewed

Literature on physical activity and health and wellness in older adults is easily available but studies on the same subject situated in northern communities such as Prince George were not available. Nor were studies on older adults’ health and wellness from the perspective of older adults and as experienced by them. Almost all general literature available on physical activity emphasizes the many benefits of physical activity to health and wellness in older adults. The research is good, authentic, clear and convincing.

My research provides insight into whether seniors themselves perceive the benefits of physical activity to their health. Also, could there be negative effects of physical activity from seniors’ perspective? There may be some perceived negative consequences of physical activity for older adults with certain health conditions such as cardio-vascular problems, spinal injuries, and hypertension. Not all kinds of physical activity can be deemed to be beneficial to health and wellness, especially in old age (Belardinelli, Georgiou, Cianci, & Purcaro, 1999, p. 1173-1182; Evans, 1999, p. 13-17; King, Oman, Brassington, Bliwise, & Haskell, 1997, p. 32-37). For instance, lifting weights and heavy equipment could lead to cardiac emergencies, back injuries and sprains. Excessive physical activity could lead to stress and hypertension, which too could hamper health and wellness. Over 2300 years ago the Greek philosopher, Socrates, made the following observation on this issue: “For both excessive and deficient exercise ruin bodily strength…” (as cited in Morgan, 2005, p. 266). It has been important for my research to investigate how seniors themselves viewed physical activity with these concerns and/or liabilities in mind.
In synopsis, literature on physical activity and health in older adults appears to address most issues deemed to be important and beneficial for wellness in older adults, but is limited with respect to the issue of perspectives of seniors themselves and particularly those from the North. It is addressing this limitation that was the focus of my research.
Chapter 3: Research Methodology

The purpose of this research is to develop a better understanding about the perceived impact of physical activity on older adults who are 65 years and above, as described by older adults themselves, through a qualitative approach. Data was collected through a focus group and individual interviews and perspectives from older adults on the impact of physical activity on their health and wellbeing were obtained. Analysis of data was undertaken using thematic analysis.

Qualitative Approach

Qualitative research has emerged during the last three or four decades (Creswell, 2003). This paradigm helps researchers study their topics in “natural settings” and try to understand, or make meanings of phenomena as perceived by the people participating in the research (Denzin, 2008, p. 312-319). According to Patton (2002), qualitative research involves data collection and analysis, which are aimed at gaining insight into “people’s behaviors, attitudes, value systems, concepts of the world around them, motivations, aspirations, culture or lifestyles” (p. 4-12). Qualitative research is often used to ask questions about society and developments within it (Pope & Mays, 2006, p. 4). In qualitative research, data can be collected from interviews, direct observation, and written documents (Patton, 2002). In this research, I used the qualitative approach to collect information on physical activity and its effect on the health and wellness of older adults. Data was collected via two methods – focus group and in-depth individual interviews.
Sampling

I employed purposeful sampling for my study. In purposeful sampling, researchers “seek first-hand knowledge of and experience with the circumstances to be studied” (Coyne, 1997, p. 623-630). Higginbottom (2004) suggests that the guiding principle in purposeful sampling should always be maximum variation in the selection of participants. This will help ensure the credibility of the research findings over a broader demographic spectrum (Higginbottom, 2004). The wide range of older adults, 65 years and above who reside in northern BC, who participated in the study, had direct knowledge and experience of the impact of physical activity on their health and wellness. The criteria for my sampling were decided in advance and did not change during the course of the study (Koerber & McMichael, 2008).

Age was a determining factor in sampling. Just as physical activity varies between younger older adults (those around 65 years of age) and their older counterparts (75 years and above) (Jackson et al., 2004), attitudes to physical activity may vary, requiring sampling according to age. Research has shown that men and women, especially in their advanced years of life differ in their potential for physical activity. If so, then their attitudes toward, and opinions of, physical activity too may be different, resulting in the need for gender-based sampling. Research has also shown that education, or the lack of it, as well as socio-economic conditions and culture can affect attitudes to physical activity among older adults. Sampling was undertaken along these lines. In short, sampling sought a range of participants with respect to age, culture, gender and socio-economic status. I tried to ensure that there was at least one participant between the age group of 65 to 74, 75 to 84, and 85 and above. I have tried to select people from various cultural groups in Prince George; for example, participants who identified as Aboriginal, Caucasian, and East Indian. There was no discrimination in gender and socio
economic status, as an equal number of men and women were asked to participate from different strata of society.

**Recruitment of Participants**

Participants in this research were older adults 65 years and above, residing in Prince George. Posters were used to invite older adults to participate in the research (Appendix F). These posters were made available in seniors' centres, through the Prince George Council of Seniors’ office and at older adults’ gathering places such as church, coffee shops, and through the researcher’s contacts. There were a total of twelve participants for the entire research, six participants attended the focus group and six participants attended the in-depth interviews. Participants were given the option to participate in either the focus group or individual interview. Hence, all participants attended only one interview i.e. either the focus group or the individual interview for this research. The participants of the focus group were treated to drinks and snacks and the participants for individual interviews were offered a gift packet containing $20 each, but not all participants accepted this gift.

**Participants for focus group.** As indicated previously, posters were put up at the Prince George Council of Seniors’ office, seniors centers, distributed at older adults gathering places, at my church gathering, and through word of mouth through myself and my contacts. People responded by contacting me by email, phone, and personally. For those choosing the focus group I received a few available dates and set up a date that was convenient to most of those who responded. There were eleven people who were interested in the focus group but I could set a common date for only six participants. I made every effort to get an equal number of male and female participants, but was unsuccessful. I also made sure that older adults from all socio-economic strata were invited. The focus group was conducted at the Prince George Council of
Seniors' office premises (Appendix H) with six female participants and no male participants. The focus group session took about an hour. To begin participants filled out the demographic questions (Appendix E) followed by a discussion based on the focus group questions (Appendix C). The focus group ended with a question and answer period where the participants were invited to ask for any clarification on the research and to add any comments that they felt were not covered during the discussion. Every effort was made to ensure maximum participation. I followed this up by sending a thank you note to all the participants in the focus group through email.

**Participants for in-depth interviews.** The individual interviews were conducted at a convenient place for the participants. The same method of recruitment as in focus group was followed in recruiting participants for the individual interviews. Posters for the individual in-depth interviews were put up at the Prince George Council of Seniors office, at seniors centers, cafes where older adults gathered (such as Pine Centre Mall), at a local church, and through my contacts. All efforts were made to get an equal number of male and female participants and equal number of older adults from different cultural backgrounds. There were three male and three female participants for the individual interviews. There were five Caucasian and one Aboriginal participant. The questionnaire for the individual in-depth interviews is attached in Appendix D.

**Data Collection**

Data was collected primarily through one focus group and a series of individual interviews. There was also a set of demographic questions (e.g., age, gender, education, income etc.) that was completed by all participants.
**Focus group.** In qualitative research a focus group is a planned discussion of select people who help generate ideas, perspectives and experiences on a designated subject. Focus groups meet “in a permissive, non-threatening environment” (Krueger, 1994, p. 6). In this study, my aim in conducting a focus group was to hear and understand participants’ views and experiences through group interface (Litoselliti, 2003, p. 1-15).

Focus groups help in obtaining information on the lived experiences of the participants, and participants’ understanding of every-day life (Litoselliti, 2003, p. 19-20). Much of the information is likely to confirm and strengthen existing knowledge. Yet, a researcher is always looking for information that is new (Litoselliti, 2003, p. 16-27). Focus groups have the potential to generate multiple perspectives on a subject (Litoselliti, 2003, p. 18-19) because of the many people that can contribute to the discussion. They provide clues to why people think or feel about a topic in a specific way (Krueger, 1994, p. 6).

Through the focus group, perspectives and experiences of the participants were gathered. Participants shared their experiences on the effect of physical activity in their lives and discussed its positive and negative impacts. Every participant’s perspectives were heard and recorded. I observed that when one participant shared information it would trigger a memory for another participant who then recounted her experience. Lindlof and Taylor (2002) too allude to a similar experience (p. 182). This helped generate more information from the participants. The dynamics of social interaction in focus groups is an important one says Reinharz (1992) to glean information (p. 214-239). Focus groups have limitations too. They are susceptible to the manipulations of the researcher or of dominant personalities from amongst the participants. Anonymity within the group is impossible because everyone is known, while confidentiality depends on the personal ability of each individual in the focus group to honor the need for
confidentiality. The quality and completeness of data collected depend in large part on the capabilities of the researcher (Litoselliti, 2003, p. 16-27). Focus groups, thus, tend to be artificially created environments which can influence the responses that are generated (Krueger & Casey, 2000, p. 5-20). In the course of data collection from focus groups these concerns were constantly in sight, and every effort was made to draw information that was authentic and accurate.

A focus group of six participants was undertaken. Open ended questions were used in the focus group to encourage participants to freely engage in discussion with guidance from the facilitator. This is the first time I conducted a focus group. With sound theoretical understanding of how focus groups function, I was able to organize the focus group and the discussions amongst the participants. There were difficulties such as getting all the respondents to meet on a particular date. There were more than ten older adults who were willing to participate in the focus group but only six were able to come on the scheduled date. Most of the participants who could not attend were away for the summer. Keeping the benefits and limitations in mind the focus group was conducted in a way that did not compromise the credibility and usefulness of the research. Each participant was given sufficient time to share their perspective and experience. Discussion among the participants was encouraged but I as the researcher made sure that the participants stayed on the topic and did not drift away. Participants were encouraged to discuss the positive and negative impacts of physical activity and the limitations that prevent them from being physically active. Participants also discussed how (if possible) they might overcome these barriers. I collected the data from the focus group by way of written notes. A member check in real time was done several times during the focus group to confirm my interpretation of the data with the participants (Huges, & Layhoe, 2009, p. 82 -
A member check is a method used to improve the validity of the information obtained (Tanggaard, 2008, p. 15-29). The length of the focus group was about an hour. The location of the focus group was at the Prince George Council of Seniors' (PGCOS) office. None of the participants were members of the PGCOS. The focus group was audio recorded but I faced some technical problems towards the end and was unable to record the group discussion towards the end. I had also taken written notes, which were used to assist in the transcription and analysis.

**In-depth interviews.** In-depth interviews are widely used in qualitative research. They add a personal touch to the interview process because they bring the interviewer and the interviewee face-to-face. Suspicions and fears which are likely to come up through the impersonal process of answering questionnaires are eliminated by a cordial and affirming interviewer who can use human connection to draw extensive information from participants (Boyce & Neale, 2006, p. 3).

Participants are the most important aspect of the interview process as the primary source of information for the researcher. The researcher adopts a passive role as a learner, seeking as much information as can be drawn from the interviewee. A non-threatening and yielding posture on the part of the interviewer facilitates creation of an environment in which the interviewee is likely to divulge information without inhibition. Interviews succeed as a source of good information for research only when the interviewee’s sense of space and freedom are respected by the interviewer. It is hence important to describe in detail with the interviewee every aspect of the interview process. Data collected can be in the form of tape recordings, typed transcripts of tape recordings, and the interviewer’s notes (Kvale & Brinkmann, 2009, p. 81-88).
In-depth interviews too have their limitations. In-depth interviews deal with individual cases. The circumstances and experiences of each individual are likely to be different from another. For this reason alone in-depth interviews which study and analyze individual cases cannot make assumptions of collective groups on the basis of individual findings (Breakwell, Hammond, Fife-Schaw, & Smith, 2006). Thorough documentation can be difficult because field notes may contain confidential information unsuited for wider circulation. Interviewers are at most times completely dependent on interviewees to provide accurate information. Yet, accuracy of information is not always that easily obtainable. Some factors that can hinder accuracy include self interest, limited language skills, memory loss, nervousness, and inadequate knowledge of the topic (p. 238).

In spite of the limitations, the in-depth interview method was a good source of gathering information for this research. It helped me get the story behind the participants’ experiences. It also enabled collection of in-depth information on the impact of physical activity on the health and wellness of the participants.

Each person was interviewed once and the length of time of the interview was 45 minutes to one hour. Interviews took place at a private location that was convenient to the participant, including their homes or at another mutually agreeable location. The interview data was collected by typing the notes down on the computer directly. Not all participants were comfortable with recording the interview so I decided not to tape any of the in-depth interviews. Participants were given the opportunity to verify the information keyed-in to ascertain that I had captured their comments correctly. It ensured that a "member check" (Tanggaard, 2008, p. 15-29) was done at the end of the interview.
**Demographic questionnaire.** All participants were asked to complete a demographic questionnaire before the interview. The demographic questionnaire contained questions such as age, gender, marital status, number of children and grandchildren, level of education, and household income.

**Data Analysis**

Using thematic analysis the data collected from the focus group and in-depth interviews were organized under specific themes. Thematic analysis is used in qualitative research to gain insight into a phenomenon. It helps the researcher to communicate his/her observations, findings, and interpretation of the phenomenon to the reader. Thematic analysis helps in "identifying, analyzing, and reporting patterns or themes in the data" (Boyatzis, 1998, p. 4 - 12). "A researcher judgment is necessary to determine what a theme is. A theme might be given considerable space in some data items, and little or none in others, or it might appear in relative little of the data set" (Braun & Clarke, 2006, p. 77-110). For my research, with a total of 12 participants, all themes presented by the participants were included in the thematic analysis. I collected data using an inductive approach, where I read and re-read the data for themes related to physical activity. I identified patterns and captured themes from the data in relation to the research question. I used the following steps in thematic analysis of the data: familiarized myself with the data by reading through the data a few times, generated initial codes, searched for themes, reviewed themes, defined and named themes, and documented the findings (Braun & Clarke, 2006, p. 77-101). Confidentiality of the participants was maintained throughout the research by not referring to the participants by their names. Only initials were used. The first stage in the thematic analysis was to transcribe some of the verbal and written data obtained from the focus group and individual interviews, which was then read through a few times to
familiarize myself further with the contents and begin the search for meanings and patterns. The data was then coded.

**Coding.** I used the inductive method of coding, which provides the most basic means for developing codes and themes. In the inductive method of coding the researcher must have the "ability to see," that is to recognize pattern in the data, and then be able to organize his/her observations into patterns. The inductive method of coding requires the following stages: sensing themes, recognizing and coding data consistently, developing codes, and developing codes into main themes (Braun & Clarke, 2006, p. 77-101). I read the data interpretively to help construct my inference from the data and to familiarize myself with the data. The next step was to developed descriptive codes, where the codes were summarized from the primary topic of discussion (Auerbach & Silverstein, 2003, p. 31-76). These codes were then put together under broader codes which are the sub-themes. These sub themes were then categorized into main key themes.

**Steps to Ensuring Rigor**

I have evaluated the study using the following criteria (Krefting, March 1991, p. 214 – 222):

**Credibility of data.** In order to maintain validity of the data collected I did member checks at the end of every individual interview. Careful scrutiny was also maintained for information gathered from the focus group. I verbally summarized to participants of the focus group answers they had given during discussion time to the questions raised. The purpose was to make sure I had recorded the information correctly. Data triangulation was done by using different sources of information such as information from the participants in the focus group and individual interviews, and from research done in related areas.
Transferability of the data. Will the research and its findings be relevant and applicable to people and contexts outside of the research's immediate geographical scope, and beyond the study participants? Although not freely transferable the research is likely to benefit older adults and people and agencies involved with their health and well-being especially in northern cities with similar conditions to those of Prince George. This confidence rests on the fact that the climate, living conditions, availability of resources, demographics and culture of communities in the Canadian North have many similarities. The research was undertaken by a single student. There was no information available or scope for contact with other researchers studying the same or similar subjects. Hence researcher triangulation was not possible. However, a literature review informed the project.

Reflexivity and research journal. During the process of the research I have reflected on myself as a researcher and my relationship to what I was researching. My belief that it is very difficult for older adults to live in the North and that physical activity is a challenge during the winter due to weather conditions could have influenced the research. So before I actually started the research I did some pilot interviews to check if my questions were effective in eliciting descriptive responses and based on this feedback improved the questions as necessary. At every stage of the research I made every effort to ensure that I interpreted correctly what the interviewee was saying via member checking.

I have tried to exercise utmost vigilance so that I did not personally influence the research process and its outcomes through any of my own personal preferences or prejudice. I made every effort to set these aside so that my own views did not affect my documentation of interviews and other means of information gathering and analysis. At the same time with my experience in working with older adults I am aware of the difficulties that older adults face in the
North and have been able to empathize with and understand what they were saying. I have carefully maintained a research journal to make sure that I have documented data accurately without entertaining personal biases.

**Ethical considerations.** The thesis was reviewed and approved by the UNBC Research Board (Appendix I). An information sheet was provided to all participants of the focus group as well as individuals willing to participate in in-depth interviews. This information sheet is available in Appendix A. The information sheet included the purpose and goals of the research, how participants would be chosen, what they would be asked to do, and who will have access to their responses. Participants were also informed that their participation would be voluntary. The risks and benefits of the research were included in the information sheet. Participants involved in the individual interviews were informed that their names and identification would be treated with confidentiality and that they would be able to maintain anonymity. However, confidentiality and anonymity in the focus group could not be guaranteed as each member of the group was aware of what the other participants said. Hence, participants were requested to respect the privacy and maintain confidences shared by other participants (Marlow, 2005, p. 195-196). Information on how research data would be stored and for how long, as well as how it would be destroyed was also included in the information sheet. In case of concerns or complaints an appropriate contact number and email address for the UNBC Research Ethics Board was included. The information sheet was given to participants along with the consent form (Appendix B) which participants signed to indicate their consent to participating in the research. The information sheet also informed participants that a copy of the results of the research would be available to them. Along with the information sheet all participants were verbally briefed about the overall purpose of the research as well as the risks and benefits to
them. Confidentiality has been partly addressed by using the initials only of the participants in records and reports leading up to drafting the thesis. Besides the maintenance of confidentiality, another ethical consideration was generating confidence in participants. This was done by respecting their individuality and freedoms; by allowing them to speak and express themselves; by not imposing on them outside perspectives and opinions; by making them feel appreciated and valued; and at the end of the process demonstrating accountability towards them by giving the participants the results of the research. Maintaining transparency and co-construction of the participants perspectives is essential to generate confidence in the participants and also to enhance the credibility of the study “as a source of knowledge” (McNamee, Olivier, & Wainwright, 2007).
Chapter 4: Results of the Research

Through focus group and individual interviews the participants were invited to share their opinions and experiences of the impact of physical activity in their lives. This chapter will begin with a demographic description of participants followed by a discussion of what the participants shared about their experiences in a focus group and in in-depth interviews. The chapter will also look at how the data collected from focus group and in-depth interviews were analyzed using thematic analysis. It will present the themes that were identified from the data collected and a discussion on what each theme represented.

The demographic data collected at the time of interviews was analyzed. The age group of participants showed that in the focus group there were a total of four participants in the age range of 65 to 74 years, one in the age range of 75 to 84 years, and one in the range of 85 to 94 years. In the individual in-depth interviews all participants were in the age range of 65 to 74. The marital status of participants in the focus group had three married, one single and two widowed participants. The in-depth interviews had five married and one widowed participant. The gender of participants in the focus group were all female and the in-depth interviews had an equal number of male and female i.e. three in each gender participating. In the focus group one participant out of six did not have children where as all participants in the in-depth interviews had children. The education level of participants in the focus group and the in-depth interviews, range at various levels from secondary school (incomplete) to University degree. Three participants in the research did not mention their income levels. Two were below income level of $39,999 four were in the income bracket of $40,000 - $59,999, two earned between $60,000 - $79,999, and one above $80,000. Sixty percent of the participants belonged to and attended seniors’ centre and the rest did not belong to or attend seniors’ centres.
After reviewing the data as recommended by Braun and Clarke (2006) in their article on using thematic analysis I read and re-read the data collected to look for themes. The following eight key themes emerged from the readings along with some subthemes:

**Thematic Structure**

| 1 | Enthusiasm to learn more about and be involved in physical activity | 1.1 Desire to read about physical activity.  
1.2 Information and knowledge key factors to achieve physical fitness.  
1.3 Assumption that physical activity involves exercising. |
|---|---|---|
| 2 | Effects of northern climate on involvement in physical activity | 2.1 Less outdoor exercises in the winter.  
2.2 Loneliness contributing to less physical activity.  
2.3 More activity possible in the North than in South. |
| 3 | Prominent physical activity | 3.1 High activity level of all participants in summer involving outdoor activities.  
3.2 Adjustments for physical activity with the onset of winter.  
3.3 Participants involved in high levels of exercises. |
| 4 | Impact of physical illness. | 4.1 Five participants had physical illness.  
4.2 Participants feel healthy all year round. |
| 5 | Reason for being involved in physical activity | 5.1 Motivation plays a very important role.  
5.2 High level of activities with grandchildren  
5.3 Physical activity helps to be independent.  
5.4 Companionship helps engage in physical activity.  
5.5 Good health – a basic need felt by older adults.  
5.6 Involvement in physical activity to remain flexible.  
5.7 Physical activity helped avoid chronic pains and stresses.  
5.8 Goals help motivate to be involved in more physical activity. |
| 6 | Reasons for not being involved in physical activity | 6.1 Illness.  
6.2 Mobility due to arthritis and other leg problems. |
|---|---|---|
| 7 | Physical activity contributes to good health. | 7.1 Involvement in physical activity  
7.2 Physical activity and healthy lifestyle.  
7.3 Multiple facilitators for physical activity.  
7.4 Physical activity a benefit to all |
| 8 | Other views on physical activity in the community | 8.1 Satisfied with the level of physical activity performed.  
8.2 Joining seniors' centres is time consuming  
8.3 Seniors centres do not always cater to older adults with physical disability.  
8.4 Older adults facilities in the North are expensive.  
8.5 More senior' centers in the city than in the outskirts.  
8.6 Older adult helpers do not have gerontological background. |
Analysis of Data

Thematic Analysis

The data collected through the focus group and individual in-depth interviews were analyzed concurrently using thematic analysis. Thematic analysis is a widely used approach to qualitative analysis. Eight key themes emerged with some subthemes. I tried to capture what is important to the main research question. A discussion of each of the eight key themes and subthemes follows:

1. Enthusiasm to learn more about and be involved in physical activity

1.1: Desire to read about physical activity. Participants expressed a desire to read about physical activities. Some stated that reading about physical activities is easier but putting them into practice and being consistent with it is a little difficult. "I love to read on anything to do with physical activity, to know more on how I can keep fit, but find it is difficult to be consistent with my exercises." Due to their age, they stated that it was difficult to keep up with exercises that demanded quick movements and they felt that instructors guiding older adults did not understand that they needed to go at a slower pace than younger people. Some participants expressed an eagerness to read in spite of increasing hardship with deteriorating vision and inability to concentrate on acquiring information over an extended time. Some complained that reading required being able to sit in a certain posture for some time, which was difficult. When asked how they learnt about the connection between physical activity and health among older adults, participants pointed to several factors: government and charities' awareness drives; advice from doctors and counselors; media; the advice of family and friends.

Some participants suggested that more information on physical activity and older adults' health needs to be readily available to them at places they frequent, such as doctors' clinics,
seniors’ centres, and seniors’ homes. One participant stated that there were numerous programs on television anchored by doctors, which offer an endless supply of information and advice on how to keep healthy and active. Similarly, there are books and magazines that provide information and advice, but she felt confused about which ones she should follow.

1.2: Information and knowledge key factors to achieve physical fitness. It was clear from the data that the right knowledge helped older adults take the appropriate action to keep fit. Older adults were convinced from their readings and from the advice they had received, that physical activity contributed to the betterment of their overall health. The knowledge they gained from their sources inspired them to seek physical fitness. There was a consensus and willingness to engage in physical activities for their own good. One participant commented “I feel physical activity is important to help keep me fit.”

1.3: Assumption that physical activity involves exercising. The relatively well publicized information about the health benefits derived from yoga and aerobics seemed to lead some older adults to think in the unilateral direction that exercise alone is a useful physical activity. However, during our discussion older adults themselves suggested a number of other physical activities as equally profitable to health, these included walks, playing with grand children, cycling, trekking, swimming, and so on. One of the participants stated “I go for walks regularly during the summer and occasionally during the winter.”

2. Effects of northern climate on involvement in physical activity

2.1: Less outdoor exercises in the winter. The harsh winters in our region contribute to the adversities that older adults face. Participants stated that winters are the most difficult time for them; physical activity becomes severely restricted, while sicknesses such as the common cold and influenza become a challenge. One participant commented “I feel physical activity is
more difficult in the winter because of the weather....I mean it is difficult to go out for walks, or go to the parks or get-togethers with friends.” Some observed that during the winter months they tend to sleep longer and more often during the day than in the summer and autumn which can lead to weight gain. A comment from one of the participants was: “During the winter I like to go to bed early and get up late because it gets dark very soon and the bed feels nice and warm.” Physical disabilities and concern about injuries sometimes prevented participants from going out as often as they would in the summer. For example, one participant stated “Due to ice I am afraid to walk outdoors because I am scared of slipping on ice. If I hurt myself it takes longer for me to heal now than it did when I was younger and it makes me dependent on other people for my daily living activities.” Some participants complained that they could not bear the cold outdoors and feared slipping and falling on the snow. Others stated that driving is difficult in the winter due to low visibility and slippery conditions. Injuries during the winter are more painful and take longer to heal. During the focus group participants voiced their worries about the coming winter because it would keep them indoor for longer periods of time and restrict their outdoor physical activities. Some participants stated that they have arthritis which causes severe pain and swelling and prevents them from being physically active. Some complained of poor sidewalks in the city. They stated that these sidewalks are not safe for older adults to walk on due to potholes and uneven surface, which results in falls and other injuries.

2.2: Loneliness contributing to less physical activity. Participants observed that displacement caused crisis for them. They associated health and well being with living in familiar territory amongst relatives and friends. They spoke of such a life as meaningful living, where the meaning and purpose of life seems intact and undisturbed. The link between the past and the future, from older adults’ perspective, was maintained, which seemed very important to
the participants. Participants observed that when older adults move from one place to another they lose touch with what is familiar and are not comfortable to embrace what is new and unknown. The struggles of coping with a new environment makes many older adults withdraw, further leading to depression, unhappiness and nostalgia. It makes the onset of sickness a real possibility. One of the participants commented "I know of a lady who moved from Alberta to Prince George to be close to a friend who died soon after. This lady went through a period of depression as she had no friends to share her sorrow with....." Vulnerability to airborne sicknesses as well as chronic conditions such as diabetes and asthma were also perceived as impediments to physical activity. Participants observed that however careful they were, the frequency of these conditions was only increasing.

2.3: More activity possible in the North than in South. One of the participants stated that it was possible to do more physical activity in the North than in the South because of more open space and a dryer climate in the North as compared to the South. "I feel physical activity is more convenient to be involved in here than in the South. The climate here is drier and there's lots of space." This makes it possible to go out for long walks and do outdoor activities.

3. Prominent physical activity

3.1: High activity level of all participants in summer involving outdoor activities. Older adults perceived winters to be a challenge. The cold and the snow, especially here in the North debilitated movement and increased the pitfalls of danger to life and health many times over. With relatively weakened lung capacity and weaker legs, the inability to face the air chills and slippery snow outdoors became a painful reality every winter. Older adults said they ward off the threat of winters by staying indoors. Participants expressed that the best time of the year for them was the months of summer that follow the spring, after the snow has melted and the
temperatures have risen to a bearable level. Participants spoke of loving the freshness in the summer breeze. The all pervasive sunshine of the summer months filled them with optimism and encouraged them to step outside their homes. Most travels were made in the summer months, "I travel during the summer, go visit my children and grandchildren." It was also the time for them to test out new foods and indulge in leisurely shopping. Catching up with friends, visiting the doctor, getting all pending check-ups done, going to church and other community places, gardening, cleaning and house-keeping, as well as submitting even to a rigorous agenda of physical activity became possible. Swimming and walking seemed to be the most popular physical activities for the participants. All participants shared that during the summer months they were usually involved in outdoor activity to a high level.

3.2: Adjustments for physical activity with the onset of winter. Those participants who are accustomed to outdoors physical activity in the spring, summer and autumn, did not look forward to the onset of winter. The winter took away some of their freedom and restricted them to the safe confines of their homes. Participants had to reorient themselves to activities that could be done indoors. As one grows older, making adjustments becomes difficult. This concern was voiced by a few participants. It also affected them mentally. Till they got used to their new schedules and activities, several participants struggled with forgetting tasks they had to perform indoors in order to continue to be physically active. It sometimes caused irritation and anxiety. The sudden change, many said, required making adjustments which were not the most convenient. Participants also stated that they tended to watch more television during the winter as compared to the summer. Thus to remain physically active indoor was a challenge and struggle. "During the winter I like to just sit in front of the TV and have to remind myself that I should do some work at home to keep myself active." But they knew its importance and need in
their lives and were willing to make deliberate choices in favor of being physically active in the winter months.

3.3: Participants involved in high levels of exercises. Participants mentioned that swimming and walking were their most popular physical activities. Some participants stated they hiked, which was quite admirable. Swimming and walking offer immense benefits to older adults. They keep older adults' hearts and other muscles of the body functioning well. These activities also help overcome the debilitating effects of arthritis, osteoarthritis and osteoporosis.

One participant stated "I swim regularly because it helps keep my muscles flexible, as I suffer from arthritis." Swimming and walking strengthen the muscular system so that the individual is physically more in control of him/herself and can hence prevent falls. Most participants shared that they indulged in these activities for a minimum of two hours a week.

4. Impact of physical illness

4.1: Five participants had physical illness. The onset of sickness with advancing age is unavoidable, though physical activity and mental resilience can prolong it. Five participants shared that they had some form of physical illness that made it difficult for them to be physically active. But they shared that inspite of illness they made sure they were involved in physical activity. A ninety year old participant shared, "I suffer from severe arthritis but I still make sure I go out and about and am involved in the community". Among the health issues shared by participants were diabetes, asthma, back pain, and arthritis. Some even spoke of referrals to physiotherapists they had obtained from their family doctors. Physiotherapists had put them on prescribed exercise programs after extensive examination of their physical movements and general physical health. The exercise program was meant to at least minimally restore certain lost abilities and/or to prevent further loss.
4.2: Participants feel healthy all year round. Most participants stated that they felt healthy and well all year round. One participant stated that she felt better during fall when the climatic conditions were just right for her arthritis. "I feel good during the fall because I don't normally have any arthritis problem." The discussion on this point attended to the reasons for their general wellbeing all year round. Participants were meticulous about taking their prescription medicines and maintaining the recommended diet. As earlier indicated, nearly all also recognized the importance and need for physical activity in their lives, and participated in it. They took the required precautions and avoided undue risks. Participants were also not inclined to an erratic lifestyle. Some never smoked while others had quit smoking some years back when their doctors warned them of the health hazards they faced from smoking. A pint of beer or some form of alcoholic beverage too was very rare and in very limited quantity. Participants even described how they avoided sugar and fatty foods. All these helped them maintain a well-rounded food intake through the year which contributed to their general wellbeing.

5. Reasons for being involved in physical activity

5.1: Motivation plays a very important role. It was observed during the discussion that forums such as the gathering for a focus group were occasions that motivate older adults to renew their commitment to regular physical activity in order to remain healthy. Other regular sources of motivation were friends and family, health programs on television, household tasks and even caring for a pet.

5.2: High level of activities with grandchildren. Majority of the participants stated that activities with grandchildren were one of the major physical activities they were involved in. During the discussions, most participants admitted that time spent with grandchildren involved the most effortless physical activity. "I love to spend time with my grandchildren. I can do
some light activities with them. It creates a bond between us and keeps me active and busy.”

This kept them occupied and busy. It helped them connect with family and spend quality time with their grandchildren. It also kept them feeling younger and made them have a purpose in life. Some whose grandchildren had grown out of that early stage seemed to dearly miss those times.

5.3: Physical activity helps to be independent. Physical activity contributed to a surge in levels of independence. “I like to lead an active life because it makes me independent.” Participants felt that because they felt fit and healthy they were independent and were able to do their own chores. Most welcomed the thought of not having to depend on others, even on loving and caring family members, for their daily chores. It was felt that dependence restricted their lives and increased the sense of obligation. Dependence also brought unnecessary mental pressures and increased vulnerability.

5.4: Companionship helps engage in physical activity. It was interesting to observe how much older adults valued collective living. Companionship seemed to be a cherished cultural value for the older adults who participated in the study. “Company helps to consistently be involved in physical activity.” Many shared that companionship spurred them to action towards being physically more active. More physical activity was possible and even enjoyable in the company of others, especially other older adults and little children (often grandchildren or great grandchildren). One of the main reasons for participants’ enthusiasm for engagement in physical activity with their grandchildren was the possibility of companionship. Children were easy to talk to and play with. Children had no pretensions about themselves, and their presence made older adults comfortable. Conversations and general engagement with children did not provoke conflict or confrontation. This was also possible with other older adults, especially with
those who were friends for long. With fellow-older adults the content of the companionship was different. While with children the time was spent on fun activities, with fellow-older adults it often involved reflective conversations on a wide range of subjects from personal matters to international and global issues. The physical activity done with children was mostly spontaneous and light-hearted. On the other hand the physical activity engaged in, in the company of fellow-older adults was of particular types; for instance, going on long walks, exercising together, swimming in groups, playing in-door games and so on.

5.5: Good health - a basic need felt by older adults. Every older adult interviewed expressed the desire to be in good health. “My aim in being physically active is to have good health”. This aspiration is also the key factor in many older adults’ pursuit of physical activity. They all seemed to be aware of the connection between physical activity and good health. They were also aware that physical activity keeps them from depression and nostalgia, and contributes to clarity of purpose for the remainder of their lives. One participant stated “I know a lady who is depressed all the time, she is closeted in her room and does not go out anywhere. If only she did some physical activity of any kind it could bring her out of her depression”.

5.6: Involvement in physical activity to remain flexible. Participants felt that being involved in physical activity made them healthier. It kept their illness at a minimum. Physical activity in any form made them flexible. “I have rheumatoid arthritis and the only way I feel I can move about without any pain is to be physically active. It keeps my muscles from stiffening up.” This sentiment was seconded by some participants who stated that physical activity helped their arthritis and took away the stiffness in their muscles. Physical activity also seemed to influence participants psychologically. They spoke of feeling younger and developed a more positive outlook which translated into zest for greater involvement with the community.
5.7: **Physical activity helped avoid chronic pains and stresses.** "If I am not physically active then bending down to pick up something is a difficult chore." Activities such as bending, twisting, stretching, squatting, kneeling, brisk walking and even slow-paced running were possible because of continued physical activity. Most agreed that the ability to do these enhanced their quality of life, made them happier, free from worries and stress, and contributed to their overall wellbeing.

5.8: **Goals help motivate to be involved in more physical activity.** "Setting a goal, for example, walk at least two kilometer per day and work towards achieving it helps me to be more involved in being physically active." Participants stated that setting goals helped them to be more involved in physical activity. So being part of a group and making decisions to achieve a specific goal within a specific timeframe keeps them committed to being physically active.

6. **Reasons for not being involved in physical activity**

6.1: **Illness.** Illness is another factor that keeps older adults from being physically active to an optimal level. Some of the participants stated that illness such as cold or flu or any kind of injury keeps them from being physically active. They stated that they try to be as active as possible but the process of recovery can be very slow.

6.2: **Mobility due to arthritis and other leg problems.** Some participants stated that they have arthritis which causes them severe pain and swelling which prevents them from being physically active to a level that they desire, but inspite of these physical difficulties they are involved in physical activity. One participant stated "I am 90 years old and have severe arthritis in my legs which is very painful but that does not prevent me from being involved in the community...... I volunteer two days a week and go to the gym once a week, but I wish I could be more involved......".
7. Physical activity contributes to good health

7.1: Involvement in physical activity. Most participants stated that they felt healthier when they were involved in physical activity; just one stated that physical activity did not affect their health.

7.2: Physical activity and healthy lifestyle. Most participants shared that they love physical activity and that they feel it is good to keep the mind and body healthy and fit. But fixed times of physical activity and regimented physical activity tended to put them under pressure and hence was discomforting. Nearly everyone said that they preferred to indulge in physical activity spontaneously, and expressed the desire to be physically active throughout the day. They sought to be in control of their physical activity and not the other way around.

Five participants stated they had physical conditions that prevented them from utilizing their full capacity for physical activity. They had physical conditions such as arthritis, leg injury, problems with feet etc.

7.3: Multiple facilitators for physical activity. When asked what facilitates the participants in doing physical activity participants stated that it depended on one’s pre-disposition to doing exercises and living an active life. Some stated that they got encouragement from family. Some said they were involved in physical activity to lose weight and to keep physically fit to do their daily living chores. Some stated that financial independence helped them to be active by being involved in organizations that promoted physical activity.

7.4: Physical activity a benefit to all. The participants were asked if they had anything else to share on physical activity. They stated that a sound body has a sound mind. Physical activity helps one live longer and be healthier.
8. Other views on physical activity in the community

8.1: Satisfied with the level of physical activity performed. Most participants stated that they were so busy doing housework, being involved in cooking and taking care of pets, they did not have any time to set aside for exercises.

8.2: Joining senior’s centers is time consuming. Some participants felt spending time at seniors’ centres was time consuming because being involved in activities at the seniors centre took a lot of their time from other home activities. “Frankly, I don’t have time to be involved in activities at the seniors centre. I am so busy with work at home and being involved with my grandkids I find it difficult to regularly attend seniors centre.”

8.3: Seniors centres do not always cater to older adults including those with physical disability. The discussion dropped some surprises. The Government makes substantial investment in seniors’ centres from the perspective that these offer crucial advantages to older adults’ health and quality of life. But the feeling amongst older adults was somewhat mixed. Participants were not very enthusiastic about going to senior’ centres. Some complained that the effort to travel to and from a seniors’ center was a de-motivating factor. Others said seniors’ centres did not meet their needs. They were too structured and involved spending a lot of time in activities, which they could not afford to. “Very few seniors’ centres cater to older adults with disability.” Some even observed that seniors’ centres did not have facilities essential for older adults with disabilities. Most complained that a visit to a senior centre took away most of their day and offered too little in return.

8.4: Older adult facilities in the North are expensive. When participants were asked if they wanted to add any comments they stated that older adults’ facilities in the North were more expensive as compared to the South. They stated that many older adults were below the
minimum income level (minimum income as stipulated by the government of Canada) and hence were not able to avail these facilities in the North.

8.5: More seniors' centers in the city than in the outskirts. Some participants stated that there were few activity centers for them to go to in Prince George. They stated that there were more facilities in the city centre than in the outskirts such as in the Hart Highlands or up College Heights.

8.6: Older adult helpers do not have gerontological background. "Many workers who work with older adults do not have gerontological background and are not able to advise older adults." Participants expressed concern that not all people working with older adults are well equipped to do so. It was also felt that those who work with older adults should be coached on advising older adults on the benefits of physical activity.

Conclusion

From the data collected it can be stated that participants love to read about physical activity and want to be physically active to keep fit and flexible. They believe that physical activity helps them be healthy and alert and be independent. They feel that motivation plays a very important role in being physically active. They also feel that setting a goal to achieve good health helps in keeping up the physical activity and doing physical activity with companions helps them be continuous in their activity. Most participants felt that they were involved in a high level of activity. These physical activities seem to be in various forms from house chores to outdoor activities with grandchildren and friends. It also involved exercise schedules carefully planned to increase strength, balance, stamina, and flexibility. The highest level of activity they performed was with grandchildren. Extreme weather conditions do not seem to prevent most participants from some form of physical activity. However, in summer activities are centered
outdoors and in winter it is indoors. Some participants suffered from physical illness but this
does not prevent them from being physically active. All participants liked to be involved in
some kind of physical activity to keep their body and mind fit. Despite attending some programs
most participants felt joining seniors’ centres was time consuming because the activities set up
by the seniors’ centres took a lot of their time and that they did not specifically cater to the needs
of older adults. One of the older adult mentioned that people with physical disability could not
join the fit older adults in any activity. Loneliness, illness, weather conditions, fear of falling,
skidding in winter, difficulty with mobility due to arthritis, poor sidewalks prevents older adults
from engaging in physical activities. Participants stated that family encouragement in being
physically active plays a very important role. The desire to keep fit and healthy also plays a role
in keeping them physically active. Some participants believe that more activity is possible in the
North than in South mainly due to extra space, drier weather conditions, and fewer people
around. However, participants felt older adults facilities in the North are more expensive as
compared to the South especially since more of the older adults in the North are in the lower
income group. They stated that there is less activities for older adults in the North as compared
to the South. And the facilities in the central part of the city are more available as compared to
the areas in the outskirts of the city such as the Hart or College Heights’ areas. Another view
that came up was that the participants felt that people helping older adults in the community do
not have gerontological background and hence are not really very well equipped to help older
adults.
Chapter Five: The Discussion

Participants from both focus group and individual interviews stated that they lived physically active lives in spite of the limitations from their illnesses. This seemed to state that ill health which may be considered a primary hurdle for physical activity by many; need not be so if the mind is resolved to keeping the body active. There was great eagerness among the participants to know more about measures to be taken to remain physically active so that they could continue to live healthy and independent lives. The connection between physical activity and good health was clear to them. The participants’ views, knowledge, and enthusiasm were in contrast to the conclusions reached by McPherson and Wister (2008). They suggest that older adults in the North are less active and less aware of the need to be active than older adults in the South (McPherson & Wister, 2008, p. 204-205). Participants in both types of interviews expressed some reluctance to joining seniors’ centers. Some viewed participation in seniors’ centers as a time consuming activity, whose rules and regulations and internal culture or ethos also tended to cause them stress. They preferred doing activities similar to those at seniors’ centers, in their own homes in the company of friends and family because it gave them freedom, flexibility, a relaxed environment, no top-down maneuverings and personal control.

Findings in Relation to the Literature

In their work McPherson and Wister (2008) consistently assert that older people’s increasing inclination towards physical activity is due to awareness of its benefits. In the course of my own interaction with older adults in Prince George for my research I have found this to be true. My research participants have admitted that due to reading avidly on the benefits of physical activity they have been motivated to be more involved in physical activity. Chipperfield’s (2008) research underlines the importance of being physically active in order to
have good health (p. 349-357). Participants in my research also agreed that physical activity is important for maintaining good health. One participant described how her body needs exercises to maintain flexibility just as De Souto Barreto (2009) found in his research that mobility and functional abilities can be improved with exercises. The same has also been affirmed by research conducted by Abell, Hootman, Zack, Moriarty, and Helmick (2005). Another participant stated that she does exercise to build body mass. Haskell, Montoye, and Orenstein’s (1985) research explains that repeated rhythmic action of the body enables the muscles to be healthy. Jackson, Marrow, and Dishman (2004) also state in their research that cardio-respiratory endurance training and strength training are good for frail older people.

The disconnection between top-down structural initiatives and the life-situation and experiences of older adults was observed in the instance of them not wanting to spend time at the seniors’ centers. Organizations and institutions that should work in the interest of older adults and promote their well being seem to not always address older adults concerns and needs. While the government and community invest much in such institutions in order to contribute to the wellness of older adults’ lives, older adults themselves do not always view seniors’ centers as being beneficial to them. Instead the structured institutions which most seniors’ centers are contributed adversely to some older adults health by making them anxious and stressed.

Implications for Research, Policy and Practice

The primary aim of this study is to give voice to Northern older adults’ own perceptions of the impact of physical activity on their health and wellbeing. It is hoped that older adults, their families, and institutions working for their wellbeing will benefit from the findings of this research. The focus group revealed how each individual’s unique formation, learning, culture, economic status, health, and other circumstances in the present contributed to each individual
perspective being somewhat different from all the others. Older adults learnt from one another that there was no single way of looking at things. The group helped to assist participants to discuss, deliberate, critique, embrace or reject perspectives in a cordial environment during group activities or in individual interviews.

The results of the research will be made available to the participants. The findings may assist families, care workers, and organizations working with older adults in the North better understand how older adults in the North view physical activity. The findings will also provide information that may contribute to determining what policy, programs and services that relates to physical activity and the health and wellbeing of older adults in the North best meet their needs. Once the research has been through its due process of completion, a copy of the results will be sent by post or by email to those participants who expressed interest in the findings of the research. Results will also be made available to local community agencies, the Prince George Council of Seniors’, as well as via community presentations and publications, conference presentations, and peer-reviewed publications.

Limitations of the Study

While the study may have relevance and application to older adults elsewhere, the immediate uses of the study are limited to those in the city of Prince George and in similar contexts in North-central British Columbia and Canada. The study focuses on adults 65 years and older. The study gives voice to the perspectives of older adults and does not measure the outcomes of physical activities. The research was conducted in the summer and a number of older adults were visiting their families or were on vacation. Hence it was difficult to get many people together for the focus group. There was a marked lack of response from older men in
participating in the research. Many who were contacted seemed reluctant to participate. Several expressed to me that they were not very comfortable with talking in a group.

Suggestions for Future Research

Though there is some valuable information available for older adults on the importance and benefits of physical activity to their health and wellness, the need for programs to help older adults with information on physical activity was articulated throughout the interview process. This could be investigated further to better understand how that information should be provided. Further study in relation to making seniors' centers appealing and attractive to older adults would also be valuable. Several other related subjects for future research need to be considered in order to consolidate information and knowledge on the impact of physical activity on the health and wellness of older adults in the North. Among the additional fields that must be explored for older adults in the North are the following: types of physical activities older adults are naturally inclined towards, and their effects on health and wellbeing; characteristics of, possibilities for, and benefits of, year-round outdoor activities; a comparison of indoor and outdoor activities – their features, issues of feasibility, benefits and challenges; socio-cultural perspectives on physical activity and its effects on their health and wellbeing; government, semi-government and private projects to encourage and promote physical activity; and quantitative studies of the adverse effects on health and wellbeing from a lack of physical activity among older adults in the North.
Chapter Six: Conclusion

This research focuses on the perception of older adults, their health and wellness, their attitudes to physical activity, and how physical activity affects them. The study was able to establish awareness among the older adults in Prince George about the importance and benefits of physical activity to their lives.

Though the people interviewed unanimously expressed a positive attitude towards physical activity, the study found that conditions in the North are not as conducive to physical activity as they are in the South. Severe wintry weather makes outdoor activity treacherous especially for older adults for nearly half the year. The clogging of roads by snow, slipping and falling on ice, poor natural light causing reduced visibility, freezing temperatures affecting breathing and heart health, and seasonal fevers, are serious challenges to life outdoors for older adults, and hence for optimum possibilities to be engaged in physical activity. Yet older adults in Prince George adapt very well to the extreme climatic conditions. They described how they continue to be physically active indoors in order to sustain good health.

Physical activity helped older adults not only to be healthy, fit and flexible, but also to be independent. In a town with limited opportunities for work it is not possible for all older adults to have the privilege of seeing their children and grandchildren close to themselves in the same city. Many young people move out of the city for education and for work, often leaving older parents behind. This unavoidable situation made it pertinent for older adults to ensure their physical independence in order to maintain a good life condition. The participants felt that being independent in one’s advanced years of life was something they strove for.

Participants elucidated several factors that contribute to being physically active. Motivation was a key factor. To be motivated from within by for instance continually reminding
oneself of the importance and benefit to health and well being from physical activity kept, older adults from idleness. External factors such as the spurring of friends and companions from the same age group or situation in life also served as valued motivation to continue to be physically active. A programmed approach as well as goal-setting and implementing schedules for activity and health also helps in keeping up their physical activity.

The study found that older adults in Prince George were quite adequately informed about the benefits of physical activity to their health and wellness. They were also keen on reading and collecting information about it. But some assumed physical activity to be limited to physical exercise, a misconception that was soon shifted and ultimately eliminated during discussions. The informal physical activities that can be performed during the day to keep one’s physiological functional ability at its peak became an important subject for discussion. These were especially important during the winter months when older adults confined themselves to their homes to avoid accidents and exposure to the hostility of weather conditions.

Physical and mental challenges still affected physical activity, but only in a limited manner. Through personal resolve and encouragement from friends and others, participants were able to get back to the mild rigors of physical activity. Some suffered from chronic conditions such as arthritis. Others suffered mental challenges such as loneliness and depression.

Participants mentioned that informal settings and familial connections contributed more and better to their being physically active and mentally healthy, than formally structured institutions. Being part of seniors’ centers, for instance, did not just involve making special effort to be there and be involved in activities, but it was also time-consuming and tended to stress some participants. Seniors centers were often controlled environments and participants shared that they felt restricted by them. On the other hand, informal and familial settings offered
them better conditions to be physically active at their own pace and without having to pressure themselves to fit someone else's requirements of protocol. In the home environment some participants occupied themselves with gardening, house-keeping, caring for pets, taking care of grand-children, and other mundane activities. With friends and companions they strolled neighborhood streets or went to parks to perform certain light repeatable physical exercises. Access to physical activity in structured institutions was also not always easy. Seniors centers were not as readily available in the suburbs and outskirts of the city as they were in the heart of the city. Also, facilities at senior's centers were available at a price, which not all could afford.

Something very interesting and totally new that came from participants was a view that more activity is possible in the North for most of the participants than in the South. The factors that contributed to greater activity were the following: vast open spaces of land, drier weather conditions, fewer people, and a greater sense of community. A concern with the qualification of workers working with older adults was also voiced. Some participants observed that many people who are helping older adults in the community do not have a gerontological background and hence are not well equipped to help older adults.

In a nutshell it could be said that the research found older adults in the northern city of Prince George to be adequately equipped with knowledge as well as personal initiative to live physically active lives contributing to their own health and wellbeing. The conditions did not naturally foster such a positive outlook and outcome, but older adults in Prince George are enlightened and resolved enough to make physical activity an important part of their daily lifestyle and reap its benefits.
References


City of Prince George. (2011). princegeorge.ca


http://dx.doi.org/10.1146/annurev.pubhealth.22.1.309


Appendix C: Demographic Questions for All Participants

1. What is your present age?  
   - [ ] 65 – 74 years  
   - [ ] 75 – 84 years  
   - [ ] 85 – 94 years  
   - [ ] 95 years or above

2. What is your gender?  
   - [ ] Male  
   - [ ] Female  
   - [ ] Other

3. Your marital status?  
   - [ ] married  
   - [ ] live-in / common-law partner  
   - [ ] single  
   - [ ] divorced  
   - [ ] separated  
   - [ ] widowed

4. (a) Do you have children?  
   - [ ] Yes  
   - [ ] No  
   If yes, how many?

   (b) Do you have grandchildren?  
   - [ ] Yes  
   - [ ] No  
   If yes, how many?

5. Do your children and/or grandchildren live in Prince George?  
   How often do you see them?

6. What is your highest level of education?  
   - [ ] elementary school – incomplete  
   - [ ] elementary school – completed  
   - [ ] secondary school – incomplete  
   - [ ] secondary school – completed  
   - [ ] some trade, technical, business, or community college  
   - [ ] diploma or certificate from trade, technical, business or community college  
   - [ ] some university  
   - [ ] university degree (bachelor’s or any higher level)

7. Your annual household income?  
   - [ ] less than $14,999  
   - [ ] $15,000 - $24,999  
   - [ ] $25,000 - $39,999  
   - [ ] $40,000 - $59,999  
   - [ ] $60,000 - $79,999  
   - [ ] $80,000 or more

8. Do you belong to a seniors’ centre or organization?  
   If so, do you attend events organized by them?
How often?
Appendix D: Focus Group Questions

1. There is a lot said and written about physical activity improving the health and wellness of older adults. What do you think about this?

2. Are you satisfied with your level of physical activity? If so, why? If not, why not?

3. What factors do you think facilitate physical activity in older adults?

4. What do you think prevents older adults from engaging in physical activity?

5. Do you think access to physical activity differs in the North as compared to the South? In what ways?

6. Is there anything else that you would like to add regarding older adults' physical activity and your health and well being?
Appendix E: Individual Interview Questions

1. Describe what your typical day is like.
   In Summer?
   In Winter?

2. What physical activities/exercise do you do in Summer/Winter? How often and roughly how long on each occasion?

3. Do you have any physical conditions that impede physical activity?

4. What time of year do you feel most healthy and well (in Summer or Winter)?

5. Which of the following two days in your life is better and in what ways?
   A day when you have been physically active or
   A day when you haven’t done much physically?

6. What are your thoughts about physical activity?

7. What hinders you from being physically active?

8. What facilitates you being physically active?

9. Is there anything else that you would like to add about physical activity and your own health and wellness?
Appendix G: Information Sheet

Research topic: *Perceived Impact of Physical Activity on Health and Wellness of Older Adults in Northern British Columbia.*

**Purpose and goals of the research**
The goal of this research is to understand older adults’ perspectives on the impact of physical activity on their health and wellness. The study will also look at any challenges that older adults may face in engaging in physical activity in the North and what they do to overcome these challenges. The findings of this research will be beneficial to older adults and their families as well as to Northern Health and agencies / programs involved in delivery of services to older adults in Prince George. Completion of this research and subsequent thesis will also meet criteria for the researcher’s Masters of Social Work degree at the University of Northern British Columbia.

**How participants are chosen**
Adults aged 65 years and older, and residents of Prince George are invited to participate in the research. If interested the participants are to contact the researcher to express interest.

**What you will be asked to do**
Participants may volunteer to be in a focus group or individual interview. The focus group is expected to be approximately an hour in duration. Individual interviews are also expected to be an hour in length. The focus group will take place at the Prince George Council of Seniors office and the individual interviews will take place at a location agreeable to the participants. Participants will also be asked to complete a brief paper questionnaire related to demographic information (e.g., age, gender, marital status, education, household income, etc.).

**Access to your responses**
The people who will have access to focus group and interview transcripts are the researcher Amita Gabriel and her supervisor Dawn Hemingway, Associate Professor, University of Northern British Columbia School of Social Work.

**Voluntary Participation**
Participation in this research is completely voluntary. You may withdraw at any time without explanation or consequence. Should you choose to withdraw, your information will also be withdrawn. You also have the option to answer only the questions you choose to.

**Potential risks and benefits**
There are no perceived risks to participants. Benefits of participation include gaining a better understanding of senior participants’ view regarding the impact of physical activity on their health and wellbeing as well as learning more about what helps and hinders seniors’ access to physical activity. This knowledge is expected to assist community organizations and agencies to help older adults’ better access to appropriate physical activity.
Anonymity and confidentiality
The names of participants in the focus group as well as individual interviews will not be used in any reporting. No information will be used that could identify the participants. Participants may be directly quoted with pseudonyms. Only the researcher and her immediate supervisor will have access to the data. Consent forms and transcripts will be stored separately. All personal information in the form of physical and electronic records will be secured safely and confidentially. Pseudonyms will be used to differentiate individual participants' input/words. Throughout the research, the researcher will make every effort to ensure that participant identity is not revealed directly or indirectly. Of course, participants in the focus group will be known to each other. Information provided by participants may be reflected in the final report and in publications or presentations. However, names and identifying information will not be used.

What will happen if participants withdraw
If participants withdraw from the research, any information obtained from the participants will also be withdrawn and destroyed in a secure manner.

How information and demographic questionnaires is stored, for how long, and how it will be destroyed
The researcher will make voice recordings with your consent and transcribe these recordings. Consent forms will be stored in a locked cabinet in the research supervisor's office. Digital recordings will be stored in a secured drive in password protected files. The stored information will be retained no longer than 5 years from the time of completion of the research, at which time all electronic files and digital recordings will be deleted and all paper copies will be shredded.

Concerns and complaints
In case of any questions about this research, please feel free to contact the researcher Amita Gabriel on her cell no at 250-552-9242, email gabriel@unbc.ca; or her immediate supervisor Professor Dawn Hemingway at 250-960-5694 at the UNBC School of Social Work or email hemingwa@unbc.ca. If you have any complaints or concerns about the research, please contact the UNBC Office of Research at 250-960-6735, email reb@unbc.ca.

How to get a copy of the research results
Upon request a copy of the results will be posted to you at the address you provide or via email, as soon as available upon completion of the research.

Please keep this information letter for your own records.

I sincerely thank you for your interest in this research.

Amita Gabriel
Master of Social Work student, University of Northern British Columbia
Phone: 250-552-9242
Email: Gabriel@unbc.ca
Appendix H: Consent Form

UNIVERSITY OF NORTHERN BRITISH COLUMBIA

Consent Form

Research topic: Perceived Impact of Physical Activity on Health and Wellness of Older Adults in Northern British Columbia.

I, ____________________________, the undersigned, agree to participate in this research on the perceived impact of physical activity on health and wellness of older adults, as described in the attached information sheet.

I have received and carefully read the information sheet and understand that I am being asked to participate in a one-time, focus group or an individual interview to provide my thoughts, opinions, and experiences on this topic to the degree that I am comfortable doing so. I understand that, if I volunteer to be interviewed or participate in a focus group I am also being asked to give my consent to audiotape the interview or focus group. I understand how the interview and focus group tapes and any other notes taken during the interview or focus group will be handled in a confidential and anonymous manner.

I understand my rights as outlined in the information letter and that I can refuse to answer any question without providing any reason for my decision. I understand that I can withdraw from participating at any time in the study and in the case of individual interviews ask for the audiotaping be stopped at any time even though I consented to it earlier.

The risks and benefits associated with this study as presented in the information sheet have been satisfactorily explained to me. All my questions have been answered. I have been assured of confidentiality, respect, and the choice not to participate in any discussions or interviews. I agree to be directly quoted using pseudo names.

☐ I willingly participate in this research.

Name of the Participant: _______________________________  Witness (Researcher): __________________

Signature: __________________________________________  Signature: ____________________________

Date (D/M/Year): _________________________________  Date (D/M/Year): __________________________
Certificate of Completion

This is to certify that

Amita Gabriel

has completed the Interagency Advisory Panel on Research Ethics' Introductory Tutorial for the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS)

Issued On: September 15, 2010