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"WE HAVE THIS SAYING – YOU DO WHAT YOU CAN": A QUALITATIVE DESCRIPTION OF PHYSICAL ACTIVITY AMONG OLDER ADULTS IN RURAL SASKATCHEWAN

BY

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Approval of Thesis

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Abstract

As people get older, their physical activity level declines. Among the older adult population, physical activity rates are even lower in rural communities compared to urban. This qualitative description study explored the perception of physical activity among ten older adults living in rural Saskatchewan. Transcribed interviews were analyzed using qualitative content analysis techniques. The findings revealed that older adults living in rural Saskatchewan identified social-ecological elements facilitating physical activity such as improved health, independence, and mobility as well as social cohesion and having opportunities for physical activity. Older adults from this rural region citied adverse weather conditions (e.g., fear of falling), aging (e.g., arthritis), and family members (e.g., encouraged to 'take it easy') as barriers to physical activity. Findings of this study may be useful to community programmers, service providers, and town planners in developing interventions to increase physical activity among this population.

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CHAPTER I – INTRODUCTION

My primary motivation for this study arose from my experience working in the health promotion field. Five years ago I embarked on a journey upstream into the public health sector that opened a new outlook for me. Prior to this I had worked for over ten years in the mental health field as an addiction counsellor, treating and supporting those with substance related issues. In moving from direct clinical service provision to treat problems that had already occurred to taking a broader look at the multiple factors that influence health of a population to prevent the problems from occurring, I was introduced to the social determinants of health and readily embraced this concept and its relationship to health promotion.

A particular area of interest in my new health promotion career related to physical activity was how it contributed to health outcomes. My focus area was primarily school age children and community-based initiatives that led to my interest in socio-ecological factors that influence health, which then led me to the realization that older adults experienced lower physical activity participation rates than other age groups (Canadian Institute for Health Information, 2006). Even more interesting, rural communities reported even lower rates of activity than urban centres (Frost et al., 2010). As I worked and lived in a rural region, this puzzled me.

With the known benefits of physical activity and the harmful effect of physical inactivity, why were more people not active? This led me to question what physical activity meant to people, particularly among older adults who had

lived in rural communities most all of their lives. Assuming the importance of maintaining health throughout the aging process and the health benefits of being physically active, I reviewed the literature and found that there had been little research done with rural-dwelling older adults in Canada in relation to their perception of physical activity. With a large portion of health care cost associated with treating preventable diseases and illness, particularly among older adults, there was a striking need for the voices of older adults in rural communities to be heard. When we can understand the needs of older adults in their own words, we can better facilitate healthy aging in rural communities.

There is so much we can learn from our older adult population in terms of past and present experience and the knowledge they have gained throughout the years. Gaining a deeper understanding of the perceptions of older adults related to physical activity would not only assist this population but would also help make changes necessary for all to benefit as we will all age and become older adults ourselves. Changes now will make a better future for all.

Statement of the Problem

The population in Canada is increasing where adults age 65 and older are the fastest growing age group. By 2021 the number of older adults is expected to surpass the number of children age 14 and under for the first time in Canadian history (Statistics Canada, 2012). As people are living longer, maintaining health is of utmost importance. As people age, the prevalence and risk of reported chronic conditions increases. In 2009, 89% of older adults had at least one chronic condition (Public Health Agency of Canada, 2010). Physical activity is an

effective intervention to enhance overall health, quality of life and reduce risks associated with chronic conditions among older adults (Health Canada, 2011). In addition, being physically active also improves physical and mental functioning, social well-being, and overall physical and physiological health. Particularly among older adults, physical activity improves and maintains strength, flexibility, balance, and coordination as well as reduces risk of falls. In spite of health benefits, only 15% of older adults are physically active (Garriguet & Colley, 2014), even less are active in rural communities (Frost et al., 2010). Among the older adult population, 23% reside in rural communities and for some rural areas that number is increasing (Hamilton, 2008). Even though there are benefits to living in rural communities such as having a greater sense of community and volunteerism, as well as lower rates of cancer, reduced stress, and a perception of greater health compared to their urban counterparts, older adults living in rural communities report poorer health outcomes such as increased respiratory disease, injuries, and suicides and the impact of chronic disease is greater, compared to those living in urban centres (Canadian Institute for Health Information, 2006). Rural communities also report limited income, education, and higher incidence of unhealthy behavior such as smoking and obesity. Given these multiple factors, it is important to consider the interaction between personal, social, and environmental elements that influence health, particularly among older adults in rural communities where health promoting behaviours such as physical activity remain low.

Significance of the Research

With the expectation that people are living longer lives in addition to the rising cost of providing healthcare services, maintaining and improving health outcomes has rapidly become an important public health issue (Public Health Agency of Canada, 2011). Little research has been conducted on physical activity among rural dwelling older adults in Canada, particularly in the Prairie Provinces. In 2007, Saskatchewan had the highest number of older adults which has since reduced to just above the national average; however, Saskatchewan is one of few provinces yet to implement a strategy on healthy aging and very little research has been done on physical activity among older adults in rural communities, particularly using a socio-ecological framework. As physical activity can improve health and reduce the risk for chronic disease, it is important to understand the contributing factors to physical activity engagement among older adults, particularly those living in rural communities to assist in remaining active and healthy as long as possible. Results of this study will add to emerging research in the physical activity field and be valuable for programmers, service providers, and town planners in developing interventions to increase physical activity among older adults.

Research Purpose

The purpose of this study was to gain a deeper understanding of the socio-ecological factors that influence or contribute to physical activity among rural-dwelling older adults in Saskatchewan.

CHAPTER II – REVIEW OF THE LITERATURE

This chapter provides an overview of the aging Canadian population related to health and physical activity within the context of rural communities. A review of literature summarizes the published academic research related to facilitators and barriers of physical activity in both rural and urban settings.

Canada's Increasing Population

Canada's population is on the rise and is expected to continue increasing over the next fifty years (Statistics Canada, 2012). This increase in population is attributed to a number of factors. Statistics Canada (2012) reported that fertility rates in all provinces in Canada have increased since 2005 leading to an increase in population. In addition to fertility rate increases, the number of immigrants relocating to Canada has increased from 18% in 1996 to 19% in 2006 and continues to rise, particularly in provinces where demand for workers is increasing (Service Canada, 2013). The Public Health Agency of Canada (2010) reported that people are living longer lives, also adding to the increase in population. As a result, according to data released by Statistics Canada (2012), the projected population in Canada is expected to rise from 33 million in 2009 to 40-47 million in 2036 upwards to 63 million by 2061. With a growing population, attention must be paid to the influence this will have on Canada's economy, social system, environment, and health-care system to ensure the health and sustainability for Canadians from birth to older adulthood (Public Health Agency of Canada, 2011).

Increased Proportion of Older Adults

Not only is Canada's population increasing, it is also aging. Canadians 65 years and older are the fastest growing age group and by 2036, the number of older adults age will increase to between 9-10 million which is more than double the older adult population measured in 2009 (Statistics Canada, 2012). For the first time in Canadian history, between 2015 and 2021, the number of older adults will surpass the number of children age 14 years and under (Statistics Canada, 2012). The number of older adults has increased due to a number of factors. After World War II ended in 1966, Canada experienced an increase in population among newborns (Public Health Agency of Canada, 2010). Those born during this time were referred to as the baby boomers (Public Health Agency of Canada, 2010). The baby boomers are now reaching the age of 65 years which has marked an increase in the population within this age bracket. In addition to the aging baby boomers, advances in medicine aimed at treating and preventing illness and disease has increased life expectancy rates resulting in people living long and healthy lives (Public Health Agency of Canada, 2010) however, the life expectancy among rural residents is lower than urban dwellers (Canadian Institute for Health Information, 2006).

As health-related issues tend to increase as people age, the population increase among older adults could have an impact on the health care system sustainability as well as present challenges for Canada's social and economic system (Public Health Agency of Canada, 2011). It is therefore important to

understand the health and aging effects among older adults to plan for future needs for this population (Canadian Institute for Health Information, 2011).

Aging and Health

Approximately 44% of health care costs are associated with services for older adults (Public Health Agency of Canada, 2011). As the population of older adults' increases, the incidence of chronic conditions also increases (Canadian Institute for Health Information, 2011). Chronic conditions account for 42% of direct medical costs to the Canadian health care system with an estimated cost of $39 billion a year (Mirolla, 2004). According to the Public Health Agency of Canada (2010), in 2009, 89% of older adults had experienced at least one or more chronic condition, with many experiencing four or more. Common chronic conditions affecting older adults included arthritis, high blood pressure, diabetes, heart disease, cancer, and stroke (Public Health Agency of Canada, 2010). Arthritis affected more than 44% of the older adult population with 56% experiencing cardiovascular disease and 39% diagnosed with cancer (Public Health Agency of Canada, 2010).

Although good health tends to decline with age, aging alone is not the sole cause of many chronic conditions (Canadian Institute for Health Information, 2011). Particularly in rural communities, where people are more likely to have less income, less education, and lower life expectancy rates, rural residents tend to have higher incidence of smoking, obesity, and higher mortality rates related to illness, injury, and circulatory/respiratory disease (Canadian Institute for Health Information, 2006).

Physical Activity and Health of Older Adults

As people age they face numerous barriers and become higher risk for poor health yet, many older adults still report perceived good health status (Statistics Canada, 2011). Older adults who had been physically active in their younger years tended to be active as they aged (Finch, 1997) however according to Public Health Agency of Canada (2011) only 15% of older adults are physically active enough to benefit or maintain their health. There are numerous benefits to being physically active (Public Health Agency of Canada, 2011). The Canadian Society for Exercise Physiology (2013) recommends in the physical activity guidelines that older adults engage in 150 minutes of physical activity per week, yet only 11% of older adults are achieving this recommendation (Statistics Canada, 2013).

Regular physical activity can reduce the risk of chronic conditions such as heart disease, obesity, cancers, diabetes, and osteoporosis (Health Canada, 2011). Even physical activity that is started later in life can still have a beneficial health effect (Wing, 2008). For older adults, physical activity helps maintain muscle and bone strength, strengthen balance, coordination and flexibility as well as support social connections by participating in physical activity with others (Health Canada, 2011). Physical activity plays an important role in preventing and slowing the progression of chronic conditions such as diabetes, heart disease and stroke (Ashe, Miller, Eng, & Noreau, 2009). According to Mirolla (2004) aapproximately 40% of chronic conditions are preventable by increasing physical activity.

Canadians are aware of the benefits of physical activity on their health. According to Finch (1997), older adults generally acknowledged that physical activity was necessary to improve health and was an important factor in preventing illness such as heart problems, stress related illness, and mental well-being. The most commonly reported benefit of being physically active among older adults included improved perception of health, social interaction with others, increased physical functioning, and psychological well-being (Wilcox, Oberrecht, Bopp, Kammermann, & McElmurray, 2005; Lange de Souza & Vendruscolo, 2010). Older adults also reported that being physically active helped improve sleep, strength, appetite, and energy level (Dechaine & Witcher, 2007).

Rural and Urban Settings in Canada

Approximately 23% of older adults in Canada live in rural areas and this number is gradually increasing in parts of Canada as people retire and relocate back to rural communities (Hamilton, 2008). Although research within rural communities is limited, it is reported that rural communities experience barriers such as limited supports, limited transportation and housing options, as well as limited access to health care and specialized services (Healthy Aging and Wellness Working Group of the Federal/Provincial/Territorial Committee of Officials (seniors), 2006). According to the Public Health Agency of Canada (2011), 90% of older adults live independently in the community. Older adults in rural communities report having less access to health care services and face the added challenge of finding transportation to seek specialized health care services when needed (Northern Health, 2013). As rural residents generally have lower

income, less education, and less secure employment than those in urban centres (Canadian Institute for Health Information, 2006), older adults in rural communities experience multiple inequities in the determinants of health. For example, rural residents report higher rates of smoking, obesity, and physical inactivity, which increase the risk of numerous preventable, chronic conditions (Canadian Institute for Health Information, 2006).

Yet, despite barriers faced by rural residents there are many benefits to living in rural communities. Rural residents report a stronger sense of community belonging and pride in their community compared to urban residents (Canadian Institute for Health Information, 2006). Graham and Connelly (2013) also reported that rural dwelling older adults had a strong sense of community where many were actively engaged with others through volunteer opportunities. This is apparent in the volunteerism rates in rural communities where in 2010, older adults volunteered over 1 billion combined hours of service across Canada (Cook & Speevak Sladowski, 2013). Older adults volunteer their time doing community service work such as supervising events, serving on boards and committees, and participating in fundraising events (Cook & Speevak Sladowski, 2013). As many older adults have flexible schedules, they become highly valued for the service they provide back to the community (Cook & Speevak Sladowski, 2013).

Findings from a study conducted by Keating, Swindle and Fletcher (2011) indicated that rural residents were also more likely to have daily or weekly contact with friends and family versus urban residents which contributed to maintaining their mental well-being and reduced isolation and loneliness. As

older adults in rural communities make a significant and valuable contribution to others, it is important to ensure that they remain physically active, socially connected, and supported in healthy behaviours (Healthy Aging and Wellness Working Group of the Federal/Provincial/Territorial Committee of Officials (seniors), 2006).

Rural Health

Even though there are health benefits to living in rural communities such as reduced stress levels and lower mortality rate of cancer, (Canadian Institute for Health Information, 2006), older adults living in rural communities are at greater risk of poor health due to a number of factors including reduced access to health care and support services, unsafe living environments, and isolation (Public Health Agency of Canada, 2010). Many rural-based occupations place residents at higher risk for injury and death. Mortality rates due to motor vehicle accidents and worksite injury are higher in rural areas particularly due to the higher risk occupation of farming as well as the need to travel longer distances to access basic services (Canadian Institute for Health Information, 2006). The poorer health status in rural areas is also associated with personal health behaviours including physical inactivity (Ministerial Advisory Council on Rural Health, 2002).

Review of the Literature

Behaviour is influenced by a number of inter-related factors encompassing individual, social, and environmental elements. These combined factors are described within the socio-ecological model put forward by McLeroy, Bibeau,

Steckler, and Glanz (1988). This model consists of four interactive elements, individual, social, physical environment, and policy. Individual aspects such as personal attitudes, beliefs, perceptions, behaviours, skills and abilities, and knowledge can all influence physical activity behavior (McLeroy et al., 1988). In addition to individual factors, social elements also contribute to the individual's behaviour. Social elements include family, friends, organizations, access to social supports, and culture of the community. Another element influencing behavior is found within the environment the individual lives in. Environment can encompass both the physical or natural environment as well as the built or constructed environment. Features within the physical environment that influence activity includes weather, safety, in terms of perceived crime, and the built environment features include access to facilities, community design, and transportation. Another element within the socio-ecological model occurs at the policy level where education, health, environment, and funding aspects occur. The socio-ecological model is useful in gaining insight into how personal, social, and environmental elements serve as facilitators or barriers to particular individual behaviours, including physical activity.

Studies that have examined the facilitating and inhibiting elements among older adults have identified numerous insights into physical activity involvement. Many report common facilitators and barriers to physical activity in terms of personal, social, and environmental aspects in both rural and urban settings however, within the physical environment, rural communities report additional facilitating elements that were not indicated within urban communities in the

literature reviewed for this study. Using the socio-ecological model as a guide, a literature review of published studies on physical activity facilitators and barriers among older adults uncovered numerous personal, social, and environmental elements that influenced physical activity among older adults. Many studies occurred outside of Canada with little research specific to rural Canada, particularly among the Prairie Provinces. Also important to note is many studies generated from urban and rural communities report common facilitators and barriers with the exception of rural environmental facilitators where rural dwelling older adults found safety, aesthetics, and access to parks and trails as facilitating their activity. This was not specifically brought out in urban studies included in this literature review as a facilitator among urban dwelling older adults.

Personal Facilitators of Physical Activity. Research on physical activity has indicated that maintaining physical functioning and mobility and enjoying the type of physical activity were key facilitators in both rural and urban settings. Marquez, Aguiñaga, Campa, Pinsker, Bustamante and Hernandez (2014) conducted four exploratory urban-centered focus groups that consisted of 20 multi-ethnic participants with an average age of 66 to 74 years of age. At the individual level, participants identified maintaining their physical function was a facilitator of activity as well as an enjoyment of activity. Preventing health decline and enjoyment of activity were also reported among older adults in a grounded theory study conducted by Hardy and Grogan (2009) where 48 older adults ranging in age between the ages of 52 to 87 participated in nine focus

groups in an urban centre in the United Kingdom. Personal health benefits were reported as central facilitators of physical activity among sixteen adults age 65 to 74 in Perth, Australia in a qualitative descriptive study (Jancey, Clarke, Howat, Maycock, & Lee, 2009).

Similarly, Grossman and Stewart (2007) conducted qualitative interviews among thirty-three sedentary urban dwelling adults age 75 and older and found that the desire for independence facilitated physical activity. Finch (1997) reported that older adults perceived physical activity as being beneficial to health and well-being. Finch (1997) conducted eight focus groups and ten individual interviews with both urban and rural dwelling adults in England who were over the age of 50 and found that that older adults perceived the desire to maintain independent and mobile as a facilitator to physical activity in addition to the presence of grandchildren in an attempt to keep up and be involved with them.

Studies conducted in rural Canada have brought forward similar results among the personal facilitating elements of physical activity among older adults. Gavarkovs, Burke, and Petrella (2015) surveyed 149 men in predominantly small rural communities in Ontario on their perceived barriers and facilitators of physical activity. Similar to studies outside of Canada, participants cited health benefits and enjoyment as facilitating elements of activity.

Social Facilitators of Physical Activity. Similar to personal facilitating elements of physical activity, studies have shown that older adults in both urban and rural settings identified similar social facilitators. A study of middle aged older adults in urban Texas found that social supports influenced participant's

physical activity participation (Mama, McCurdy, Evans, Thompson, Diamond, & Lee, 2015). Participants, consisting of 18 ethnic minority obese women, reported that family were an important facilitator of activity in adding motivation and encouragement. Hardy and Grogan (2009) reported the sociability of exercise facilitated physical activity where the activity became a social event for those who were living alone.

In addition, participants reported that other people assisted in their motivation to be active as role models. Grossman and Stewart (2007) reported similar findings where support from family assisted in physical activity engagement among older adults. From a rural perspective, social facilitators of physical activity were reported by 19 rural dwelling adults between the ages of 27 and 75 (mean = 51) in rural Midwest United States of America (Chrisman, Nothwehr, Yang, & Oleson, 2015). Participants in three focus groups characterized family and friends as facilitating physical activity. Socializing with others and having others present who were active assisted in physical activity involvement. Having a pet that required daily exercise was also mentioned as a motivating factor of activity among the participants. Likewise, Manson, Tamim, and Baker (2015) found that socializing facilitated activity among 87 older adults 50 to 84 years old in urban Ontario.

Studies from rural communities in Canada yield similar results related to social facilitators of physical activity. Bacsu, Jeffery, Novik, Abonyi, Oosman, Johnson and Martz (2014) used a population health intervention approach to analyze interventions supporting or inhibiting healthy aging in rural communities

in Saskatchewan. These researchers found that older adults preferred to be physically active with their peers. Another facilitator of activity was the role of volunteering, which allowed for an opportunity for socialization to occur. It was found that older adults identified their seniors' centre as a facilitating element that provided an opportunity for social interaction with others. Regarding family, older adults with no family close by relied on friends and the community for their support. Similarly, Dechaine and Witcher (2007), who conducted six focus groups in rural Alberta with adults age 55 to 75, found that participants perceived encouragement and support from others as facilitating physical activity. Many participants in the study noted the enjoyment of the social aspect of activity referencing the importance of the social coffee hour afterward.

Environmental Facilitators of Physical Activity. From an environmental perspective, numerous facilitators of physical activity were reported in rural communities whereas urban studies included in this review did not indicate any specific environmental facilitators in urban settings. Frost et al., (2010) conducted a systemic review resulting in twenty studies of the built environment in rural communities and found that facilitators of physical activity were influenced by safety, aesthetics, as well as access to parks and trails.

Personal Barriers of Physical Activity. Despite the known health-promoting benefits of physical activity, many older adults in both urban and rural settings remain inactive and report numerous common barriers to engaging in physical activity (Frost et al., 2010). Frost et al., found that participant's believed physical activity could be dangerous at an older age and this belief created a fear

of over doing it. Personal safety concerns and lack of interest and confidence in physical activity were also reported as personal barriers of physical activity. Participants in the study reported poor health, aging, and lack of time as a barrier to their physical activity involvement. Jancey, Clarke, Howat, Maycock and Lee (2009) found that getting older was identified as a personal barrier to being active among sixteen adults age 65 to 74 in Perth, Australia. Other barriers identified by participants in the study related to aging, were pain and discomfort that limited physical abilities as well as impacted balance. Among the limiting age-related factors were pain in the legs, arthritis, foot spurs, and crook back.

Personal barriers identified in rural Canadian studies also included aging in addition to perception of physical activity. Participants in the Witcher, Holt, Spence, and O'Brien Cousins (2007), study among ten older adults in rural Newfoundland uncovered a number of barriers to physical activity participation including aging, personal beliefs, and community perception of physical activity where many older adults considered physical activity to be inappropriate and too strenuous for them.

Social Barriers of Physical Activity. Many urban and rural studies also identified social barriers to physical activity engagement. Family members hindered physical activity when they themselves were not active and when participants felt added responsibilities and pressures at home such as cooking, cleaning and maintaining the home in addition to working outside the home were present (Mama, McCurdy, Evans, Thompson, Diamond, & Lee, 2015).

Environmental Barriers of Physical Activity. Unlike environmental facilitators of physical activity, studies show little difference in the reported environmental barriers between urban and rural older adults. From an environmental perspective, urban participants identified safety and weather as inhibiting elements of physical activity engagement (Marquez et al., 2014). Having no sidewalks or having uneven sidewalks was perceived as a safety concern among participants. In addition, participants identified inclement weather consisting of cold, ice, snow, and extreme heat as inhibiting activity and increasing the fear of falling in such conditions. Weather was also a barrier for urban participants the Jancey et al., (2009) study where extreme heat, cold, heavy rain, and forceful wind inhibited physical activity among older adults. Similarly, Hardy & Grogan (2009) found that urban dwelling older adult's identified uncertain weather conditions as a barrier of physical activity in addition to cost and accessibility of appropriate facilities.

Coinciding with urban based studies, rural dwelling participants identified similar environmental barriers. Chrisman, Nothwehr, Yang, and Oleson (2015) found that narrow sidewalks and un-kept roads that contained loose gravel, mud, or increased traffic were barriers to participation in physical activity among older adults in rural Midwest United States. Participants in the study mentioned a desire to utilize public facilities such as schools and local swimming pools for physical activity; however, cost and accessibility were cited as impeding factors in doing so.

Research examining facilitators and barriers of healthy aging among rural and remote older adults in Saskatchewan was conducted to examine the family, community, and policy supports in rural and remote communities that enabled older adults to age in place (Jeffery, Bacsu, Abonyi, Novik, Martz, Johnson, & Oosman, 2013). Jeffery and colleagues interviewed 40 older adults to gather data on their perceptions of supports and health needs in their rural community. The data gathered from this study resulted in the development of a framework to support healthy aging for rural older adults and includes the following domains: independence, social and community interaction, cognitive and mental health, mobility, and supportive environments (Jeffery et al, 2013). Key to healthy aging as identified by Jeffery and colleagues included social support, keeping active, and having a positive attitude. To remain physically active, older adults identified important elements in their community that assisted them to be active. Participants identified adequate supports such as seniors' housing, public transportation, safe sidewalks, and appropriate community design that helped them to be independent and active in their community. Availability of physical assistive devices such as stair ramps as well as having appropriate physical activity opportunities and access to information on existing services were important for participants to maintain their health and continue to age in their rural community.

Similar to Jeffery et al. (2013), Bacsu et al. (2014) used a population health intervention approach to analyze interventions supporting or inhibiting healthy aging in rural communities. Bacsu and colleagues found that older adults

described aspects of the built environment such as unsafe sidewalks, stairs and heavy doors as inhibiting their activity. Participants recognized the importance of physical activity yet many remained inactive, particularly during the winter months due to reported fear of falling on ice. Barriers perceived by older adults, such as yard work, including snow shoveling, grass cutting, and rotor-tilling were challenges that older adults identified as they became older due to the strenuous nature of the activity.

Witcher, Holt, Spence, and O'Brien Cousins (2007) explored perceptions of physical activity among older adults in rural Newfoundland conducting in-depth interviews with 10 participants, both male and female and found that the context in which participants grew up affected their physical activity participation. People who had a physically demanding career as a young adult had little time or interest to engage in leisure-time physical activity particularly into older adulthood. Witcher et al. reported that those who were active in older adulthood conducted what they perceived as meaningful physical activities such as berry picking, wood gathering, knitting, and sewing. This study formed the basis for understanding physical activity and how it was perceived among the older adult population in Newfoundland. Atlantic Canada had a high population of older adults and the rate of physical activity among that population was relatively low therefore this research assisted in gaining a deeper understanding of the perception of physical activity among the older adult population in this geographic region. Similar scenarios regarding the population of older adults and low activity levels also exist within other provinces in Canada, particularly in

Saskatchewan, where the number of older adults is steadily increasing and the physical activity levels are declining (Statistics Canada, 2011).

Chapter Summary

As Canada's population continues to increase and age, it is important to understand the needs of the growing population to help create conditions that will benefit all Canadians now and in the future. Understanding the combination of personal, social, and environment elements that influence health will assist older adults in living healthier and more productive lives. Place of residence such as those who live in rural communities can be beneficial but can also present multiple challenges that residents need to manage to achieve better health status. Many people could improve their health by engaging in healthy behaviours such as increasing physical activity. The benefits of being physically active are well known yet the majority of older adults, particularly those residing in rural communities are inactive. Recent research has turned to a more comprehensive approach to understanding the factors that influence physical activity involving a combination of personal, social, and environmental elements. Gaining a better understanding of the perception of physical activity among older adults in rural communities, particularly in provinces such as Saskatchewan where little research has been conducted, will assist in filling a gap in research and contribute to the current initiatives taking place to increase healthy behaviours and implement strategies that will effectively improve and support health among the older adult population.

Purpose of the Study

Little qualitative research exists among the older adult population in rural communities, particular in Saskatchewan (Jeffery et al. 2013). The purpose of this qualitative study was to gain an understanding of the socio-ecological elements that influenced and contributed to physical activity among rural-dwelling older adults in the province of Saskatchewan. Hearing directly from older adults who reside in rural Saskatchewan was determined to have the potential to improve awareness of physical activity in rural communities to support the implementation of programs and practices that will facilitate active lifestyles for older adults.

CHAPTER III – CONCEPTUAL FRAMEWORK

In the study of physical activity, it is recognized that it is both beneficial and necessary to explore the range of factors that influence physical activity across multiple sectors. The socio-ecological model is an approach that encompasses physical, social, and environmental elements that impact physical activity participation. Physical activity is related to improved health and assists in the reduction of risk for a variety of diseases and conditions. Certain factors such as personal health behaviours are often researched in isolation resulting in recommendations and guidelines for individual change that have had limited success (Witcher, Holt, Spence & O'Brien Cousins, 2007). Witcher et al. (2007) noted that the introduction of personal measures such as the Physical Activity Guidelines which recommend the amount of daily physical activity people need to maintain health, have resulted in limited success in increasing physical activity levels. Studies reveal unhealthy lifestyle factors such as inadequate nutrition, use of alcohol, tobacco and drugs as well as physical inactivity all contribute to poor health status and increase chronic conditions (Northern Health, 2011). Therefore, many elements in addition to personal behaviour need to be considered in relation to individual health status.

It is recognized that personal lifestyle choices impact health however, for many people additional barriers exist among the social and environmental sectors which make choosing healthy living practices more difficult (Public Health Agency of Canada, 2011). More recently, researchers have begun looking at the combination of elements to gain a deeper understanding of the influence they

have on health (Witcher et al., 2007). This research study was based on this socio-ecological model to guide the collection and analysis of data as illustrated in the conceptual framework (Appendix A).

For the purpose of this study, the term older adult was defined as those who had reached the age of 65 years and older. The Organization for Economic Co-operation and Development (OECD) defined older adults as age 65 and older which allowed for comparing data from other countries (Canadian Institute for Health Information, 2011). Physical activity was defined as any form of movement by skeletal muscles that increase energy expenditure over resting levels (Katzmarzyk & Tremblay, 2007). Aligning with recent research on rural and remote communities in Saskatchewan, the definition of rural for this study was based on Statistics Canada's definition where rural and remote areas consisted of a population of less than 10000 people and a population density of up to 400 people per square kilometre (Saskatchewan Health Research Foundation, 2007).

To explore the elements that contribute to physical activity and the elements that act as a barrier to physical activity participation in rural communities among the older adult population, it is important to consider multi-level factors that influence participation. Personal elements may include genetics, age, gender, behavioural, and demographic factors. Areas of interest to explore for this study included the participant's beliefs and attitudes about physical activity as well as their perceived benefits, enjoyment, and competence in being physically active. Social factors may include the social supports available, the

social norms, and the cultural beliefs of the community. This study explored the supports that participants had from their family, friends, and community and how that influenced their physical activity. Environmental elements included transportation, infrastructure, economic incentives, policies, and programs available in the community. Certain elements within the physical environment may impact physical activity participation including the climate and seasonal differences, as well as features of the built environment such as access to safe sidewalks and good lighting, as well as access to transportation and services in the community. It was assumed that a combination of these factors would influence physical activity participation within the community members. It was also assumed that older adults would describe a variety of activities as physical activity from housework to exercise classes. Participants with good social supports and those who placed high value on their health would likely be more physically active. It was also assumed that a supportive environment would facilitate physical activity participation.

Research Question

Taking all these factors and assumptions into consideration led to the following research question: What is the perception of physical activity among older adults in rural communities within the province of Saskatchewan?

CHAPTER IV – METHOD

This chapter presents qualitative description as the means to study physical activity among older adults in rural communities in Saskatchewan and includes the rationale for the selection of this research methodology. The chapter provides an overview of the sampling, data generation, and analysis. A discussion of ethical considerations concludes the chapter.

Research Approach

Qualitative Research Perspective. Qualitative research is a naturalistic approach that values the meaning that people make of their experiences and enables them to describe that meaning in their own words (Bidonde, 2005). Through a qualitative approach, the researcher elicits details about the participant's life in relation to the research question and explores the context of the participants' situations, while generating data in the natural environment in which it occurs (Creswell, 2013). Data are generated by talking directly to people with the researcher acting as the instrument of data collection (Creswell, 2013). According to Creswell (2013) a qualitative approach to research empowers individuals to share their stories and have their voices heard, and helps the researcher gain an understanding of the context or setting where the participants face a problem or issue. For the purpose of this study, qualitative methodology of qualitative description was chosen as it enabled the researcher to identify and understand the interaction of influences on physical activity among older adults in rural Saskatchewan.

Qualitative Description. To gain a deeper understanding of the perceptions of physical activity among older adults in rural Saskatchewan and to assist in filling in gaps in the current research, qualitative description (QD) was chosen for this study. QD, as a research methodology, produces a straight-forward, in-depth descriptions of participants' experiences in words as similar as possible to what the participants say (Sandelowski, 2000). The research question is usually a simple question that is used to gain insight on a participant's experience within a specific topic area (Magilvy & Thomas, 2009). Similar to other methodologies, the research question in QD studies guides the entire study (Magilvy & Thomas, 2009). Theory within QD often appears in the background knowledge of the researcher through experience, knowledge gained in the topic area, and through reviewing the works of others in the field (Sandelowski, 2009).

QD is useful when little prior knowledge exists in a particular area (Ceria-Ulep, Serafica, & Tse, 2011) and according to Jeffery et al. (2013) there has been little qualitative research conducted among older adults in rural Saskatchewan. QD places emphasis on straight description that makes it a valuable method in and of itself (Sandelowski, 2000) and QD requires that the data be useful; that there is practical application. This methodology generates findings that can be used in creating or revising interventions, conducting pilot interventions or developing programs (Sullivan-Bolyai, Bova & Harper, 2005). QD ensures that information represents the perspective of the participant, not the researcher, which is valuable in gaining an understanding and hearing the voice of those affected (Sandelowski, 2000).

In conceptualizing this study, it was recognized that it is important that older adults be actively engaged in the planning, program development, and decision making process that directly impacts them (Saskatoon Council on Aging, 2013) as older adults play a critical role in their community (World Health Organization, 2007). QD ensures the voices of older adults are heard and assists in understanding their experience (Sandelowski, 2000).

QD is a methodology that is least encumbered by theoretical or philosophical commitment and least interpretative as it does not intend the researcher to move far from the original data (Lambert & Lambert, 2012); however, interpretation is necessary to a certain extent when codes are assigned to data (Neergaard, Olesen, Andersen, & Sondergaard, 2009). Although the QD researcher needs to be open-minded in gathering data, there is also an awareness that needs to be considered of the researcher's own preconceived ideas and expertise entering into the study (Sandelowski, 2009); therefore, creating a conceptual framework as illustrated in Appendix A as an initial guide was useful in identifying those preconceptions or assumptions. This framework guided the development of the interview questions to generate data from a socio-ecological perspective including personal, social, and environmental elements.

In this study, learning from older adults about physical activity in rural communities will benefit programmers and community planners to implement effective health promotion strategies to better address the needs of this population and ensure older adults have the services, programs, and infrastructure they need to live healthy lives.

Rationale for Choice of Methodology. QD results in valuable information that describes the perception of the participants in their natural environment and in the language that they use to describe it (Sandelowski, 2000). Researchers using QD aim to gain an insider's view of participant's experiences and describe that experience in the everyday language of the people directly involved (Sandelowski, 2000). The findings of a QD studies are useful for communities and the general public as the data are presented in easily understood ways (Sullivan-Bolyai, Bova and Harper, 2005). As the purpose of this study was to gain a deeper understanding of the perception of physical activity among older adults in rural Saskatchewan with the intent of informing practice and uncovering the unheard voices in an area that little research exists, QD was chosen as the most suitable approach to answer the research question.

Setting, Sampling and Data Generation

Setting. Recruitment of participants focused in two rural communities. One community was located in the Southeast corner of Saskatchewan, and was designated a town in 1904 and had a current population of 1285 people (Statistics Canada, 2012). The town offered year-round recreational opportunities for residents and had a thriving seniors' centre where many physical activity opportunities existed. Due to the established recreation opportunities and contact people available, this community was the primary town from which the participants were recruited A neighbouring community smaller in population (342 inhabitants) but similar in services (Statistics Canada, 2012) was also used for recruitment. This community also offered numerous recreational and physical

activity opportunities for people in the community to engage in such as skating, curling, and access to a Regional Park and golf course.

Sampling. To gain in-depth information from participants, qualitative researchers often use purposive sampling methods (Glesne, 2011). According to Creswell (2013) there are three considerations in choosing the purposive sampling approach that include who to select as participants, what type of strategy will be used, and how many participants will be selected. QD with its pragmatic approach to research allows for the flexibility in selecting a sampling strategy that aligns with the purpose of the research. In selecting participants for a QD study, the participants must have experience with the phenomena, be able to communicate with the researcher, and be willing to share their story (Magilvy & Thomas, 2009). Therefore, purposive sampling was used to select study participants.

Purposive Sample. Participants for this study were selected to obtain cases rich in information and were based on the following criteria: the participants were willing and able to share their experience, were physically able to be active but could be either currently active or inactive, and all participants were 65 years of age or older and resided in a rural community. People under the age of 65 years or people who were unable to communicate in English were excluded from this study.

Recruitment. Gaining access to potential participants required informed consent and involved contacting what Glesne (2011) referred to as gatekeepers within the communities to assist the researcher in connecting with potential participants. The communities utilize the services of home care employees who

had knowledge and access to potential participants who could provide rich data. A home care aid was used to initially identify potential participants for the study. In addition to the gatekeeper providing recruitment support, a recruitment letter (Appendix B) and recruitment poster (Appendix C) were also displayed at the senior's activity centres, as well as the churches and health centres. All eligible participants were provided with an overview of the research study including the purpose of the study. Participants were given an opportunity to ask questions and receive clarification before providing informed consent to participate in the study by completing the participant consent form (Appendix D). Recruitment of participants commenced upon receiving ethics approval on October 14, 2014 with the first participant interview conducted on March 11, 2015. The final interview was completed on April 16th, 2015 and thus ended the data generation.

Data Generation. Upon obtaining ethics approval from Athabasca University, Research Ethics Board, the data generation began. The main source of data for this study was semi-structured interviews. Observational data was generated through field notes following each interview and a search of the town websites for information on programs and services. The purpose of generating data in a QD research study is to allow for the participants to share a rich description of their experience with the phenomenon (Mendez-Shannon, 2010) and discover the nature of specific topics (Neergaard et al., 2009). A common method for generating data in QD is through minimal to moderately structured, open-ended, individual or focus group interviews (Sandelowski, 2000). Open-ended questions invite the participant to describe their experience with little

interference by the researcher in guiding or leading the discussion and semi-structured interviews allow for open-ended conversations while remaining focused on the research question (Sandelowski, 2000). Data may also include observations, examining records, photographs, and documents (Neergaard et al., 2009). Observational data generation for this study included a review of the town websites for service information, population, a background history, and community development to become familiar with the services and opportunities that existed in the communities.

Individual Interviews. To avoid limiting participant's responses and to encourage free expression, Sandelowski (2000) recommends using a semi-structured, open-ended interview guide. The interview guide used in the study consisted of open-ended questions based on socio-ecological elements (personal, social, and environmental) that influenced physical activity (Appendix E). Individual interviews were conducted to gain a deeper understanding of older adult's perception of physical activity. Once the participant had consented to participate in the study, the location and timing of data generation was determined. Data were generated from ten participants by way of individual interviews lasting approximately 30 minutes in duration. The interviews were conducted mainly over the telephone as access was difficult due to adverse weather and hazardous road conditions during the scheduled data generation period. The participant interviews were audio-recorded, transcribed verbatim, and analyzed for common categories. The analysis was conducted using both manual

techniques and with the assistance of the software NVivo10 to help sort and store the data in a retrievable and searchable format.

Observational Data. In addition to individual interviews, observational data were generated and recorded. As a means of gathering observational data and to ensuring rigor in the study, both descriptive and reflexive notes were kept within a research journal. In preparation for participant recruitment, a search and review was conducted of the study setting that included the town website where demographic, industry, population, and services were noted. In addition, publically accessible town council minutes were reviewed noting infrastructure projects, resident concerns, and planning for town services and events. In-person visits were held in the selected communities where photos were taken noting the physical environment such as sidewalks and rest areas as well as photos of various facilities were taken such as the senior centre, rink, and gym and used as a visual reference when generating data from participants.

This observational data was mentally recalled during interviews by the researcher to assist in bringing to life the setting and description put forth by participants. This data also assisted in developing a broad understanding of the participant's experience within their community and assisted in providing a reference point when participant's described their perceptions.

Reflective notes were made during and after each interview in a journal documenting initial thoughts, impressions, and questions that came to mind while engaged with the participant. Also noted were certain data that touched on the researcher's own personal experience with older adults. These reflexive journal

notes were reviewed during the data analysis to maintain awareness of potential interference and served as a means of rigor in the study by identifying researcher bias, influences, and contextual information (Creswell, 2013). For example, when a participant was describing physical activities that she was still involved in, a reflexive note was made that the researcher mentally compared the strenuous activity and age of the participant to a family member similar in age and activity to the researcher. By making reference to this internal comparison, the researcher was able to recognize and separate data collected from the participant from that of past experiences with a family member to minimize interference of data.

Data Analysis

The goal of a QD study is to collect data and present findings in the words of the participants ensuring that there is minimal interference and interpretation from the researcher (Sandelowski, 2000); therefore, to uncover meaning from the data, researchers create and assign codes for participant's words and phrases (Neergaard et al., 2009). In assigning the codes, the researcher often makes an interpretation and must be careful to not change its meaning from what the participant said (Neergaard et al., 2009). This process is characteristic of QD in that the researcher stays close to the original data. In qualitative description methodology, data are often analyzed using a content analysis approach (Vaismoradi, Turunen, & Bondas, 2013). Content analysis is an approach of data analysis that is often used when a clear description is preferred by the researcher over an interpretation of the data (Vaismoradi et al., 2013). There are three key

stages to qualitative content analysis that include preparation, organization, and reporting of data (Elo & Kyngäs, 2008).

Preparation. Data generated in the audio-recorded interviews were transcribed verbatim by the researcher and reviewed numerous times allowing the researcher to become immersed in the data. Reflexive notes were made in the margins with each read. A chart was created indicating demographic information of each participant including gender, age, location, marital status, living arrangement, definition of activity, family connections, and any assistive devices being used. This information was kept close to allow the researcher to understand the context from which the participants were speaking. For example, it was important to be aware if a participant was a widow living alone in terms of perceived social engagement and family or community involvement. Data from each of the interviews was re-read and general impressions of main concepts were noted for each participant. Although latent data was recorded in the transcribed notes, only manifest data was selected for review as the latent data, according to Elo and Kyngäs (2008) involves a process of interpretation and in this study, latent data was not a critical aspect to the study design that was centered on acquiring a straight description of participant's perception. Once confident that the data was sufficiently reviewed and familiar to the researcher, the next step in content analysis was initiated.

Organization. Upon review of the transcribed data, open coding was initiated. Open coding involves collecting codes under sub-categories and categories (Vaismoradi, Turunen, & Bondas, 2013). Throughout the transcribed interviews, notes and headings were written in the margins. Once completed, the notes and headings were collectively reviewed. All open codes were documented on a separate coding sheet, color coded, and defined according to participant's own descriptions. Once defined, the process of categorizing began. Similar codes were grouped together under a higher order heading as described by Elo and Kyngäs (2008). All codes kept their original color under the assigned heading as a means of verifying accuracy of the data in comparison to the definition and heading.

Once all codes were categorized and reviewed in reference to the original data, colors were changed to reflect the category. Categories were then reviewed again before grouping of codes began. A tree diagram was created to assist in sorting codes and categories. Notes from the researcher's reflexive journal including observational data were kept as a reference when making decisions to group codes. A document containing codes and their definitions was also created and used to access reflexive notes on the definitions of the codes, key words, ideas, and thought processes of the researcher in making decisions regarding coding and categorizing data. Throughout the data analysis, numerous rough tables and charts were used to help represent the categories that assisted in sorting and reordering the data. In addition to manual analysis, interviews were uploaded to NVivo10 that assisted in sorting and referencing data generated in the study.

Questions that emerged during coding were also documented such as "why is this participant planning for decline in health? and "what is the role of having grandchildren nearby"? These questions were useful in testing relationships and connecting concepts together. Each interview was reviewed again once categories were developed using the question of "how does the participant describe this category?" making note of similarities and differences among participants. Once satisfied that the categories accurately captured the data, examples for each code was documented using sentences obtained directly from the participant's own words. A graphic was developed representing the main concepts and categories as well as some direct quotes from participants related to the concept as seen in the results graphic (Appendix F).

Ethical Considerations

This research study was granted full approval from the Athabasca University Research Ethics Board (Appendix G). The participants in this study were not subjected to physical or psychological risk. Participants were informed of their right to refuse to answer any questions. The participant's voice as an older adult living in rural Saskatchewan was heard. Information learned from the study will assist in gaining a deeper understanding of physical activity in rural communities among older adults to develop health promotion strategies for older adults. All participants were given a $20 gift card to a local retailer to compensate for their time.

The following procedures were followed in generating and analyzing the data. The information generated for this study was stored on the researcher's

personal computer with access to the data password protected. In addition to the researcher, the research supervisors were also provided access to raw data, for verification and assistance in coding. Data generated for this study will be retained by the researcher for a minimum of five years after the study is completed. Participants were also able to contact the researcher post interview to make any changes to the data they provided. Participating in this study was voluntary and participants were given the option to discontinue at any time without penalty. The researcher did not have previous relationship with any of the participants.

The following steps were taken to ensure confidentiality of the interview data. Names and other identifying information were removed from the transcribed interviews. Signed consent forms were kept separate from study data. A master list with the participant name and assigned study code were a password-protected document that was only accessed by the researcher. Participants were identified on the information collected by way of code number and initials rather than actual names. Pseudonyms were substituted for all names that appeared in the transcribed data. Prior to participating in this study, participants were presented with a written objective of the study and informed consent was required before proceeding (Appendix B, Appendix D). The techniques used in the sample selection and data collection and analysis in this study aligned with the methods of a qualitative description approach.

CHAPTER V – Results

The results of a QD study contribute to knowledge in the field and assist in developing new interventions (Magilvy & Thomas, 2009) that is of particular interest to practitioners and planners (Sandelowski, 2000). Findings from QD studies can be used to modify practice through developing targeted interventions and providing information useful to programmers and community leaders (Mendez-Shannon, 2010). A defining feature of QD involves presenting a rich description of the experience of participants which is key to reporting with this methodology. The outcome of a QD study is to gain a descriptive summary of information organized in a way that best fits the data and using the words of the participants (Sandelowski, 2000, Magilvy & Thomas, 2009). By using direct quotes from the data, a good fit between the data and analysis was achieved. As results of this study can be useful to health officials, town planners, and program leaders to assist older adults in physical activity engagement, the research methodology of QD was a suitable choice.

Description of the Sample

Data were provided by 10 older adults that comprised of nine female and one male ranging in age from 69 to 94 years of age from two neighbouring rural communities in southeast Saskatchewan. The town's services include a pre-kindergarten to grade 12 school, five churches, a health centre and physician office, senior housing, library, grocery store, post office, and bank. The town has 28 active volunteer groups including the Legion, Masons, oil wives, volunteer fire department, and the emergency support program among others. Many

opportunities for recreation exist in the town including a rink, playground and pool, ball, soccer, and tennis as well as a fitness centre and the Friendship senior centre.

Approximately 10 km away from this first community is a smaller community with a population of 342 people where 85 residents are age 65 and older (Statistics Canada, 2011). Services in this community include a bank, grocery store, and hotel in addition to a Lions club, Legion, United Church, and a seniors' centre.

Of the 10 participants in the study, six were widows and four were married. Nine participants lived independently and in their own home with only one living in a supportive care home. All participants were retired from their occupations however most continued to volunteer their services in the community. Many participants came from a farming background with a few working in retail outlets and teaching school before retiring. All 10 participants grew up in a rural community. Some were raised on nearby farms or in smaller communities and moved into town upon retirement. Others lived in the same rural community their entire lives. Eight of the participants had family members living close by. The most common health condition cited by participants was arthritis; half of the participants indicated they experienced this condition with the remaining participants describing issues with their knees, shoulders, and wrist. Of the 10 participants, eight were still driving a vehicle with only two participants walking as their main mode of transportation. Although most participants defined physical activity as everyday chores and activities, many also described

opportunities for intentional physical activity in their community including skating, hockey, curling, baseball, swimming, tennis, fitness centres, and fitness classes, senior centre activities including exercise class, dances, and shuffleboard as well as access to parks and playgrounds. Five participants used assistive devices when active; three used walkers and canes and two noted using boot spikes for walking in the winter. All 10 participants indicated that they were active both in their past and into the present and all participants recognized positive health benefits of being physically active.

To protect the anonymity of study participants, details about individual participants have not been associated with the data they provided in the writing of the results. A pseudonym has been assigned to each participant and all participants will be referred to as females to protect the one male in the study. Pseudonyms were chosen from listings of top names for the years the participants were born.

Defining Physical Activity

Participants were asked how they defined physical activity and what physical activity meant to them. Physical activity was defined by the participants in a variety of ways including any form of movement, intentional exercise, walking, and daily activities such as housework and maintaining outdoor spaces and yards. The most common intentional physical activity among the participants was walking. Participants engaged in walking for enjoyment, for physical activity, and as a means of active transportation to do errands and get to and from places within the community. Most participants included work in their yard or within

their home as a defining factor of physical activity. For most participants, either walking and/or working in and around their home constituted physical activity.

Participants were asked to reflect on the facilitators and barriers of physical activity. The facilitators of participation in physical activity and the barriers of physical activity among the participants provided insights into what might help older adults living in rural settings remain physically active.

Facilitators of Physical Activity

Questions presented to participants were intended to explore the socio-ecological influences on their engagement in physical activity and included personal, social, and environmental elements. A key facilitator of physical activity that emerged among participants was to maintain health. On a personal level, participants noted both physical and mental health benefits as a result of being physically active and cited physical activity as a factor in living independently in their own homes for as long as possible. In addition to health benefits, participants noted the importance of friendships as social connections that influenced physical activity as well as eased loneliness and isolation often experienced by older adults, particularly those living alone. The rural setting was an important environmental facilitator of physical activity for creating an atmosphere of safety, support, and opportunity among the older adults in the study.

Personal Facilitators. Many participants easily recognized the personal health benefits of a physically active lifestyle, especially in relation to their independence. Carol stated "Some days I slough off but I am a diabetic so I know how important physical activity is". For Ruth there were respiratory benefits: "I

could breathe good but after doing those physical things, ah yeah, you breathe a lot better and you just feel happy". Activity helped with weight loss according to Barbara who had "put on some over the last number of years and I have to work at getting rid of it". Shirley knew that weights were good for her bone density. She also recognized the link between physical and mental/emotional health:

> If you get outside and do stuff …or even if you're feeling a little down, if you get busy and do some housework it helps you once in a while. … I find that if I don't keep active, if I sit around a lot I feel, I really feel, I wouldn't say that I am subject to depression but I can see how if you don't do anything but sit, look at TV, it can be very depressing. So, it makes you feel better just all around. Not just physically but emotionally to be out doing things.

For the participants in this study, the link between their personal physical and mental health was inextricable especially related to maintaining independence. Physical mobility was a key factor for most of the study participants. In Betty's words physical activity meant "being able to do what you want to do to maintain my own home and to have a social life". Physical activity helped her keep "supple enough to be able to do everything I want to and like … you get so stiff you can't walk if you don't move". The necessity for regular activity was emphasized by many of the participants and according to Betty "I miss it if I am not able to, don't go (to exercise class) for a few days. I really go stiff and I really feel like I miss it". Joan also emphasized regular physical activity: "I can sure feel it if I don't (exercise). I can feel that I haven't been doing

the same muscle stretches and stuff". Balance was important for these older adults; as Judith put it: "(physical activity) makes me feel better if I keep moving and I think it helps with my stability a bit". Patricia said that activity was good for "working some of the kinks out". Shirley also spoke about getting "too stiffened up" unless she got up and moved and similarly, Dorothy stated regarding her participation in physical activity "all I was interested in was keeping my muscles up".

Helen summarized the view of the study participants about the benefits of physical activity: "I feel good. It limbers up the old joints. You sleep better and then you're hungry. I don't think there is anything negative. I just like to do it and I like that social hour too, to visit with the ladies". This social aspect of physical activity was also a key facilitator among participants.

Social Facilitators. In addition to maintaining physical and mental health, participants placed value on social interactions with others in their community, including their friendships, being known in the community, their volunteer work, and their family. These all served as important facilitators to participating in both intentional physical activity as well as daily activities. Ruth noted:

> That's what's wonderful about it. You get a whole new circle of friends. I've always liked to be with people but I thoroughly enjoy it more now because you got, I've got more time. I socialize with a lot of people and I think that is very important.

Similarly, Shirley emphasized friendship in relation to activity: "There are others I can walk with and we have a visit and walk and, you know, it is good".

Joan valued her social interaction in stating "You feel better when you go out and see other people …and you are happy that you can do things". Carol's views were consistent with Joan as she stated "I think it is great to have somebody to walk with and do something like that. There are people that don't get out and about. It's really sad".

Being active with friends helped to ease loneliness and feelings of isolation noted by Helen who said "I like to go (exercise) because I am alone and it's good to go and it's a social hour. I feel I'm so fortunate that I have such good friends that I can call upon".

Most participants spoke about their experience in the rural community of social cohesion and recognition; they were known in their communities and they knew others. Participants stated that they knew most of the families living in their town and they themselves were easily recognized within the community by others. Shirley said "I like the opportunity you have to be busy and then to have people you know and to, you know, be recognized on the street and, that's the part I like about it I guess". In addition to being recognized by others, both Joan and Carol stated that they knew people in the community in stating that "You know who is walking by" and "You know your neighbours and you can trust everybody basically… and the most important thing is knowing your neighbours and knowing you can count on them if you need them". Similarly Helen and Betty agreed that "You know everybody, practically everybody" and according to Betty "I think you know so many more people, I think, than in the city. Like, I know hundreds of people. I know people in the communities all around here because I

have always lived here and taken part in things. I have always felt that our community is a great place to live".

Many older adults recognized the importance of volunteering in the community and spoke about their role and responsibility to help out at a number of organizations including the church, the care homes, and within the town itself. Volunteering provided a reason for older adults to get out of their homes and be active in their community. In addition to connection with others socially, volunteering in the community provided an opportunity for older adults to engage in physical activity by performing the movement and tasks necessary to complete the jobs they were required to do as a volunteer. Barbara stated "I don't like being housebound. I like to be out and about and I do like a ton of volunteering". Carol spoke about the role she played in volunteering in stating that "that's (volunteering) a big part of your life when you're a senior because the young people are working and they've got kids going in different activities and they're going in thirty different directions and it's our job to do that". Betty reinforced that "I have always been a community-minded person. I have always felt that you need to be a part of it or you will feel left out. You need to do your part". Judith agreed that volunteering "is an important part of my life". Opportunity for volunteering appeared to provide both purpose and meaning among the participants. Shirley noted that "Naturally the older people are considered an important part of the community" however as stated by Dorothy "You have to be dedicated. You have to. You have to work".

More than half of participants articulated the importance and their gratitude for having their family live close by. Many noted that family was a key facilitator in their current physical activity level. Shirley often assumed responsibility for the care of her grandchild and said "I have been very fortunate, as I say, I have family here in town. I am going to be looking after my grandchild for a couple of hours so he and I will be out in the yard and I will be pushing him on the swing and if you think that is not a motivation, it is". Ruth stated that when her family is going somewhere they take her along; "everybody has friends but nothing is like your family". She went on to explain that if she wanted to go into the city where she is leery of driving, "it's nice to have family to take you".

Many participants relied on family members to help them with house and yard chores and maintenance that they were unable to do themselves. Helen spoke of how she made a list of things that she needed done when her son came over to visit such as changing light bulbs. She stated about her son "he is very good at doing jobs". Judith stated that it was nice to have her grandkids stop in after school. She said "It was nice to have them around. They did a bunch of chores for me". She also pointed out that her son often took her to the grandkids hockey games throughout the winter. "I went to about seven games in the city over the winter. I didn't drive but my son and his wife picked me up there. Yeah, it was nice". Social facilitators were closely related to environmental influences where the rural setting contributed to community accessibility and safety.

Environmental Facilitators. Participants noted that there were numerous opportunities to be active within their community. Many emphasized that the

community was safe and supportive and that the physical or built environment facilitated their activity potential as most services were within a short walking distance of their homes which often eliminated the necessity of using a vehicle to run daily errands. For Judith, the services she needed were within walking distance in her rural community and she could easily get to and from on her bicycle. "No sense starting the car or walking when I can get there faster on the bike". For Helen, she walked to run her errands as she sold her car a few years back, "now I walk more because I don't have my car". For Betty, walking to conduct errands was a common daily activity as she lived close to important facilities such as the post office and senior's centre. She stated, "I live close to downtown and I walk where I can".

Most participants articulated that their rural environment had numerous opportunities for people of all ages to be physically active. Shirley stated "There's just so many opportunities to do things" and Patricia said "There are all kinds of opportunities if you look for them". Similarly Helen, Dorothy, Barbara, and Carol all agreed that their community had a lot to offer for physical activity opportunities if people wanted to be active.

All participants stated that they felt their community was safe and supportive of their physical activity. Even though most participants perceived their community as safe, some described being attentive to potentially dangerous situations such as perceived fear of strangers or situations where dogs could be at large. They averted this fear of strangers by locking their doors at night and not walking after dark when dogs typically were running loose. Barbara shared that

she did not go out walking alone after dark as "There are too many dogs". Although Betty felt safe, she took precaution by stating "I always lock the door and I don't take any chances but I don't have any (concerns), I'm not afraid, no". Many of the participants relished their rural settings. Dorothy stated "I don't think you could be in a safer place than we are here. We all look after each other. We are like a family here". She went on to comment about the tremendous support received from the community by stating "You get so much support. They care for each other…they care". This view was supported by Ruth who stated "Everybody is behind you; everybody encourages you to do the best you can. We live in a wonderful place and I think we are lucky to be". Despite a few concerns, most participants said they felt very safe and supported to be active in their rural community and related this to supporting their independent living and physical activity level.

The physical or built environment was a key facilitator for most the participants in this study. The rural communities supported physical activity by way of maintaining roads and walkways for most of the seasons. Shirley stated "We have paved streets and biking is not hard to do here if you want to do it". Helen also commented that "We have a nice park here, lovely benches to sit on, and there is good lighting here". Although not all sidewalks were present or in good condition, most were perceived as adequate as Dorothy stated "We have a good sidewalk that was just built a few years ago". These rural residents also had access to numerous facilities that offered programs and activities for physical activity involvement such as the local rinks, swimming pool, fitness centre, senior

centre, and care homes where people of all ages are encouraged to attend. When asked about what is missing or lacking in the community for programs or services, Betty stated "Well, I don't know what it would be to have any more".

The rural way of life was preferred by participants who described the quiet, peacefulness, and connection with nature as something one did not get in the city. "I have always lived in a rural community… and I'm happy where I live" (Betty). A detailed account was propounded by Patricia:

> I've got the opportunity that I can, you know, grow my own food. That's one of the things that I really like. I just love nature and so I don't have to go searching for it. I don't even have to leave my home. I can look out my windows and I get to see, like I bird-watch a good part of the day because I can do that while I'm doing my work.

The rural setting provided a serene atmosphere; one where Judith could be out and enjoy an active lifestyle:

> I like the peacefulness around here. You can go for a walk at night and always meet somebody that knows you and that's where I do my visiting; it's on the streets, a lot of it. I like living in a small community. It's like, I looked out the window here and I see, this morning I couldn't help but listen to the doves and robins and when you are out for a walk and the beautiful fresh air. It was only +2 degrees but it was so nice. That's what I like about it.

There were numerous personal, social, and environmental catalysts of physical activity among older adults in rural Saskatchewan. These combined elements

facilitated older adults in engaging in physical activity however, the rural setting also presented with specific barriers that influenced participant's physical activity engagement.

Barriers of Physical Activity

Questions presented to participants were also intended to explore the socio-ecological barriers of their engagement in physical activity and included personal, social, and environmental elements. A significant barrier to physical activity that emerged among participants was the fear of falling. From an environmental perspective, all participants expressed pronounced concerns about falling, particularly during the winter months when the conditions were subject to freezing and icing over. The cold winters also brought awareness of a lack of opportunities for older adults to be safe and active during the winter months. Adding to the environmental barriers, participants also articulated that aging proved to be a personal barrier to being physically active. Socially, participants conveyed that often their close family members impeded their physical activity participation by placing limitations on their opportunities for independence. For others, having dissociated family members living elsewhere also presented a barrier as they had less reason to engage in community activities and functions when their family was not involved.

Personal Barriers. The process of aging itself was a perceived barrier by which participants described changes in their health status that influenced their physical activity. As one participant aptly put it, "We're all getting older and that makes a big difference too" (Helen). Chronic pain and having limited mobility

due to a chronic health conditions (i.e., arthritis, knee and joint problems, diabetes, and cancer) was a barrier of physical activity articulated by many older adults in the study. Patricia spoke poignantly about some of the difficult aspects of aging:

> I've learned, it's all part of what happens. It's, you have to come to understand that, oh my goodness, I'm not going to be able to do the things I used to do. …you find whatever you can within to compensate for your own self. It's just what you have to do… at one time I was very involved in all that community stuff, well, I'm not so much anymore just because of my inability to do things; at some things I can be more of a hindrance than a help.

Many participants spoke about physical limitations as their bodies continued to age and noted the effect on their ability to be physically active. "I had a knee replacement and that is what slowed me down" (Ruth). Both Dorothy and Carol spoke about arthritis and knee problems, "My arthritis determines how much I can actually do because when I am in pain I stop doing whatever it is. I won't push it" and "Sometimes we have trouble with our knees or arthritis". Judith added "When you get older there are always some things that you have to go to the doctor for. It's so far so good- a few setbacks".

A fine balance existed between remaining as engaged as possible with life, realizing limitations, and readjusting and compensating as Joan conveyed "I find it takes me longer to do things. I have a bit of arthritis and I just try to ignore it and pretend it's not there and I think that the stretching exercises helps". Even

though participants conveyed age-related struggles, many divulged internal coping strategies to keep them moving. Patricia disclosed that for herself:

> Focus on what you can do. That's what I try to do is just focus on what I can do because many people would be happy to have, to do what I do, you know, and they're a lot younger than I am too…you find whatever you can within to compensate. You know you got try to make lemonade out of lemons".

As Betty succinctly stated "We have this saying, you do what you can".

Social Barriers. Even though in some cases, having family close by facilitated physical activity by encouraging older adults to get out and get active, for participants like Judith, having family closely involved also led participants to describe restrictions and cautions suggested by their family members. "I have a son that lives down here not too far away which is of benefit for me but he won't let me drive to the city anymore but I guess maybe that's okay" (Judith). She went on to explain that she was once very involved in numerous volunteer roles in the community that she had now given up: "My kids keep telling me, you're not 59 anymore" (Judith). Likewise, Dorothy shared a similar position regarding her family, "My sons are naturally concerned. They are overly concerned about my health". Also in close contact with her family, Shirley stated that she always had in the back of my mind that she should be downsizing: "I am here for the time being. I have, you know, I have my name on a list if anything starts to go downhill". For some participants, having family members nearby gave them reason to go out and take part in activities that their children and grandchildren

were involved in. However, for those without family living close, there was less reason for them to be out and active. Carol explained that "I haven't been to the rink in a long time because when your kids are gone you just don't do that sort of thing anymore". Similarly, Joan, whose family resided in other provinces, stated "I know our community rink is very active but we don't have grandkids that play hockey or anything like this. We don't go there very much".

Environmental Barriers. The most common perceived barrier to engaging in physical activity was the fear of falling, particularly on the ice during the winter months. Judith, who rode her bike during good weather, spoke of a friend who had fallen on ice and broke a hip and admitted "I'm oversensitive about falling because, you know". As a result, Judith has now questioned her continued involvement in other activities such winter curling. Betty also spoke about falling stating "I did have one fall on them (sidewalks). I don't go that way anymore" and Joan revealed "When it's icy you really don't want to fall".

Icy conditions kept many participants from being active. "In the wintertime I don't go visiting because it's too icy. So, you know if it's icy, I just don't go out" (Helen). Dorothy uttered "I won't even go out if it's icy unless I have to". In spite of the fear of falling, some participants made attempts to minimize the potential for falling by using shoe spikes to get better grip. Carol explained:

> I do struggle because of the ice out on the roads too but I do have runners that I can put the grippy things onto and you know, that works fairly well but it has been extremely icy in the past couple of winters I have found.

Patricia summed up the fear of falling by explaining:

> I'm not much one to walk when it's icy and so because I am very afraid of falling and I have had a few bad falls so I don't like to do that. I used to love it when I was young but now I've kind of got to a different place once I've got a little bit, you know, the falling becomes a big issue. … I think once you have the fear I think it sets you up to a different, or at least it has to me, it puts you in a different category. You are not as surefooted anymore …and try as I might on ice, I find myself being afraid. I try to be, to do all of the precautionary things but you can only do so much.

It was during the winter seasons that these older adults perceived a lack of opportunity to safely engage in physical activity. Joan stated "Right now we can't walk, it's too icy and mucky and slushy. I usually walk in the wintertime as well but I wear my spikes on my boots". The wind was another weather-related difficulty "I don't like the wind. It's just more difficult for walking" (Helen). Patricia also noted "The weather plays a big issue 'cause you've got to consider roads" and Barbara stated "I wouldn't want to walk on gravel. It's too hard". Carol mentioned "I am very careful in the wintertime, you know, if it's icy roads or if it's really snowing or something like that I do not venture out, you know, much by myself". Many participants stated that an indoor walking facility would entice them to continue to walk though out the winter months. "There is a gym downtown but I find it very expensive and I have to find time to go there. On a limited income you have to figure out whether you want to spend your money there or somewhere else" and "It would be nice to have a bigger place…that's not

so expensive to walk in. Definitely (cost) is an issue" (Joan). Similarly, Barbara explained

> I would like to see a room or a building or whatever would allow indoor walking in the winter months. Like, that was big reason why I didn't do a lot of winter walking because our streets were atrocious and I have already fallen and broken bones.

These socio-ecological influences, whether personal, social or environmental, served as barriers to physical activity engagement for the older adults in this study.

CHAPTER VI - DISCUSSION

The purpose of the study was to explore the perception of physical activity among older adults in rural Saskatchewan in terms of personal, social, and environmental elements using qualitative description methodology. The data derived from the study provide an overview of facilitators and barriers of physical activity that many older adults in rural Saskatchewan communities may experience. Both facilitators and barriers were reported across the socio-ecological sectors including personal, social, and environmental influences.

As rates of physical activity among older adults are low, particularly in rural communities (Frost et al., 2010), how participants defined physical activity became an important consideration. For the purpose of the study, physical activity was defined to include any form of movement by skeletal muscles that increase energy expenditure over resting levels (Katzmarzyk & Tremblay, 2007). Participants in this study broadly defined physical activity in terms of any activity or movement. Most participants, many of which lived independently in their own homes, also included their daily responsibilities such as housework, yard work, and running errands as physical activity. Few studies have examined the defining element of physical activity among older rural populations. Perhaps most similar to the present study, older adults' definition of physical activity was the key focus of a study by Witcher et al. (2007), where 10 rural-dwelling older adults in Newfoundland were interviewed about their perceptions of leisure activity. Witcher found older adults in the study defined physical activity in terms of work and business. Leisure activity was viewed as something to do if there was time

after the work was completed stemming back to the mindset of work when the participants were younger. Findings from their study suggested that physical activity behavior and engagement when young influenced both perception and behavior of physical activity when older.

Participants in this study also defined physical activity from a similar standpoint where work, such as cleaning the house and doing yard maintenance, to running errands, and volunteering their services at local events in the community were considered to be physical activity. Leisure activity such as exercise class and walking for enjoyment, if done at all, occurred in addition to the daily work-related activities. Understanding how older adults themselves define physical activity warrants further consideration when evaluating and monitoring activity levels among this population in terms of leisure physical activity.

The Canadian Society for Exercise Physiology guidelines indicate that many older adults are not achieving the recommended 150 minutes of moderate to vigorous intensity aerobic physical activity per week (Canadian Society for Exercise Physiology, 2013). Consistent with the definition of physical activity in this study, the Canadian Society for Exercise Physiology (2013) also adopted the definition of any movement of the muscles however when adding moderate to vigorous intensity, physical activity becomes more specifically measured at the rate of 3.3 times more than at rest for adults over 65 years of age. Even though sample activities are provided in the guideline, it becomes a subjective opinion of how older adults interpret their own level of activity and furthermore, the sample

activities listed in the guidelines lean toward leisure pursuits such as sports, aerobics, and brisk walking.

Findings from the present study, as well as those by Witcher et al. (2007), indicated older adults perceived their physical activity in terms of having a purpose and meaning such as walking to conduct routine errands versus walking for 'exercise'. Future research needs to further attempt to understand the definition of physical activity among rural and remote Canadian populations to add a deeper understanding of what constitutes physical activity among rural dwelling older adults to enhance reporting of physical activity and develop initiatives that incorporate a wide variety of activities identified by older adults.

In addition to defining elements of physical activity, participants in this study identified numerous facilitators of physical activity participation as well as perceived barriers of physical activity.

Facilitators of Physical Activity

Facilitating elements of physical activity were reported across the socio-ecological spectrum. Participants in this study identified improving physical and mental health, in addition to maintaining independence, as personal facilitating elements of physical activity engagement. Participant's perceived that engaging in physical activity resulted in physical health benefits such as improved mobility, strength, pain reduction, and improved balance as indicated by Shirley who stated "I know that using weights and so on is good for my bone density". Physical activity was also perceived to give rise to improved mental functioning among participants including enhanced mood, better sleep and eating habits, as well as

created a general feeling of well-being "If you are getting out and getting some fresh air you do sleep better and then you're hungry" (Helen).

Maintaining health and mobility have been reported as facilitating factors in physical activity engagement for both urban and rural dwelling older adults. From an urban context, Marquez et al. (2014) identified that physical activity positively impacted health outcomes among adult participants over the age of 50 years residing in a disadvantaged neighbourhood in Chicago. These participants cited improvements in their cardio-vascular health, weight, cholesterol, mental health and physical abilities such as reducing stiffness and joint pain. Similarly, Hardy and Grogan (2009) found that urban dwelling participants age 52-87 also stated that preventing health decline had a strong influence on their physical activity engagement. Participants reported being physically active helped them to enjoy their hobbies and leisure activities as well as prevent injuries. Manson, Tamim and Baker (2015), found that the 87 participants in their study from the Greater Toronto area of Ontario were motivated by their expectations of health improvements stemming from physical activity. They also noted that health becomes more important as people age at a time when they typically tend to experience a health decline.

Maintaining health, independence, and mobility was an important personal facilitator of physical activity in this study among rural-dwelling participants as well. Participants noted that physical activity helped build their strength, flexibility, and improve mental health. For example, Judith stated "Oh, it makes me feel better if I keep moving and I think it helps with my stability a little bit".

As many participants still lived independently in their homes, maintaining that level of independence was important to them and many attributed their independence to being physically active. For example, Dorothy, regarding her participation in physical activity noted "all I was interested in was keeping my muscles up". Consistent with the literature, health and independence is a key element in physical activity engagement among older adults. Therefore, health promotion efforts targeting specific benefits of activity specifically for this population may assist in the support and encouragement of physical activity participation among older adults in rural settings.

Participants in this study also indicated social elements facilitated their physical activity behavior. Having connections with friends and the community through volunteer opportunities, socializing as part of organized programs and activities, in addition to close family connections all contributed to physical activity engagement among study participants. For instance, when asked about the benefits of going to an exercise class, Joan stated, "you feel better when you go out and see other people…and you are happy you can do things". Participants noted the importance of socializing with others, particularly those who were living alone, and having people that they could rely on if needed. Family was an important motivator for many participants who indicated that their family encouraged them to get out and be involved in their children or grandchildren's activities. Judith spoke of how her son and daughter-in-law came to pick her up and take her to her grandchild's sporting events "I went to about seven games in

the city over the winter". Often, this gave participants a reason to be sociable and interact with their family and community.

The finding that social elements facilitate physical activity is consistent with previously published research. Research findings of Bacsu et al. (2014) where 40 rural dwelling older adults were interviewed about the facilitators enabling them to remain in their homes and communities as they age, found that many older adults valued their volunteer opportunities within the church and the community for the social interaction they received. Bacsu et al. found that the senior's centre was an important venue for social interactions to occur among older adults.

Further, Hand and colleagues (2012) systematically reviewed 689 articles regarding neighbourhood influence on participation among older adults with chronic health conditions. Of these, 15 studies indicated that older adults living close to friends, family, and social networks had higher incidence of physical activity engagement supporting the facilitating social element of physical activity. Together these studies reinforce that older adults perceive socialization among family, friends, and their community as an essential factor in physical activity participation. It is important to be aware of the value placed on social cohesion among rural-dwelling older adults to support and reinforce their continued activity. Making connections with those who are living alone or with no close family members or friends could assist in increasing rates of activity among this population.

Study findings also suggested that living in a safe and supportive environment facilitated physical activity among older adults in this study. Participants noted that they received a lot of community support, which they indicated was very important to them. Living in a community that they perceived as safe was also valued. Knowing the neighbours and being recognized on the street by others was a facilitating element of activity among participants. According to Helen, "you know everybody …to have people you know and to be recognized on the street, that's the part I like about it". Living in a community with safe roads, clear sidewalks, good lighting, and numerous facilities and services also encouraged participants to be active. One participant quotation illustrating this point was "We have paved streets and biking is not a hard thing to do if you want to do it" (Shirley).

Previously published evidence supports the facilitating elements of safety and support. Mama et al. (2015) interviewed 18 middle aged urban dwelling women and found that accessibility of physical activity venues in addition to the safety of their neighbourhood influenced their physical activity participation. Many described their neighbourhood as quiet, safe, and comfortable. According to Mama et al. (2015), this perception of safety was the most common reason for activity or inactivity among participants.

Chrisman, Nothwehr, Yang and Oleson (2015) conducted three focus groups among 19 rural residents and concluded that safe communities, low crime rate, as well as low traffic rates, influenced physical activity. Particularly among rural adults, Chrisman et al. reported that older adults living in a perceived safe

neighbourhood were twice as likely to be physically active. Frost et al. (2010) conducted a systemic review of factors influencing physical activity among adults in rural settings and found that communities that were safe and had built parks, trails, and walking destinations were positively associated with physical activity. Hand et al. (2012) conferred that older adults participated in physical activity when they perceived their community to be safe, aesthetically pleasing, and as offering local and accessible services and facilities.

Overall, it is evident the physical and built environments contain important facilitating elements of physical activity engagement among older adults. Knowing the benefits of various elements in the community is useful in future and existing town planning and design, making note of modifiable factors such as keeping roads and walkways clear to increase safety and prevent unnecessary falls.

Barriers of Physical Activity

Even though there were many supporting elements of physical activity among older adults in rural Saskatchewan, a variety of perceived barriers of activity were also faced by participants. Participants discussed aspects of their environment that inhibited their activity such as adverse weather conditions that produced ice, slush, or strong winds making physical activity a less desirable option. For example, one participant stated "I do struggle because of the ice out on the roads" (Carol). Overwhelmingly (nine out of 10), older adults indicated a fear of falling, particularly when conditions are less than favourable. For example,

Patricia stated “I’m not much one to walk if it’s icy and so because I am very afraid of falling and I have had a few bad falls so I don’t like to do that”.

The fear of falling related to inclement weather is abundant in the literature, particularly among the older adult population. Several studies have reported that older adults perceived adverse weather as a barrier to participating in physical activity (e.g., Marquez et al., 2014; Chrisman et al., 2015; Witcher et al., 2007). Marquez et al. (2014) examined factors related to physical activity among 20 urban dwelling adults over 50 years of age and found that the weather conditions were a barrier to physical activity engagement.

Participants cited not only winter conditions such as ice, snow, and cold but also the extreme heat in the summer all provoked a fear of falling. Similarly, Jancey et al. (2009) reported that heat, cold, rain, and wind were all perceived barriers among 16 adults age 65 to 74 living in Perth, Australia. Bacsu et al. (2014) reported that rural dwelling older adults participating in focus groups in Saskatchewan also reported a fear of falling from ice and snow conditions during the winter which reduced their activity levels. Also related to weather in rural communities, Chrisman et al. (2015) found that loose gravel and muddy roads inhibited physical activity among adults in the rural Midwest United States. This backs data generated in this study about the cautious approach to being active in rural Saskatchewan when the road conditions were perceived as unstable. Barbara stated “I wouldn’t want to walk on gravel. It’s too hard”. As weather was a main barrier for most participants in the study, it is important for communities to search for means to accommodate older adults during inclement weather, particularly

throughout the winter months by creating or adapting appropriate and publically accessible facilities and programs without cost where older adults will feel confident to attend and participate.

In addition to weather, the process of aging itself was a perceived barrier to physical activity for many older adults in this study. Many reported arthritis and other joint pain as limiting their ability to do the things they wanted to do yet, some were able to identify ways that they compromised for their situation. Patricia said she just did not participate to the extent that she did before and that having a positive attitude has helped her cope with age-related changes. She stated "find whatever you can within to compensate. There is evidence in the literature that aging is a perceived barrier to participating in physical activity among older adults.

Jancey et al. (2009) reported that older adults reduced, and often stopped, physical activity when aches and pains were experienced. Many of Jancey's study's participants reported a loss of flexibility, balance, and lack of confidence in their abilities as barriers to activity. For some participants, when pain or discomfort limited their abilities, they accepted it as a part of aging whereas others expressed their frustration over the situation.

In addition, Gavarkovs et al. (2015) reported that many rural-dwelling men in his Canadian study of perceived barriers and facilitators of physical activity indicated that pain or injury, in addition to being too tired, were commonly mentioned barriers to physical activity engagement. Gaining a broader understanding of the personal health issues that many older adults face as they age

is important when supporting activity and implementing preventative measures to reduce injury and illness.

Social barriers were apparent among some older adults in this study who spoke of family members' perceptions of their ability to remain active, offering the suggestion that they slow down. Having family close by often encouraged older adults to get out however those with family that lived far away had little reason to continue accessing the local programs and services as they had no children or grandchildren involved to motivate or give them reason to partake in. Carol stated "I haven't been to the rink in a long time because when your kids are gone you don't do those sorts of things anymore"

Limited data exists examining the role of family members placing limitations on older adult's physical activity. Jancey et al. (2009) reported that some older adults experienced social stereo-typing regarding age and ability. Some participants indicated they were not socially supported to be physically active due to their age. Hardy and Grogan (2009) also reported that older adults stated that more could be done to support their participation and encourage them to be active. Members of the social network were viewed as a barrier for women in the Mama et al. (2015) study in the sense that support from family either assisted or deterred physical activity participation. Women in the Mama study noted that partners and children hindered their ability to be more physically active as they explained that they had many other responsibilities at home such as the up-keep of the home, making meals, and tending to the activities of other family members, leaving little time for themselves.

Even though many older adults perceived family members as a supporting element in their activity, for some, family members also discouraged activity and independence by suggesting that restrictions be placed on specific activities as adults continue to age. Education and awareness of the benefits of physical activity as well as information on how to modify activities to ensure safe participation may help relieve the pressure that family members place on older adults to give up certain activities that they view as potentially harmful.

Implications

This study presents findings using a socio-ecological model where the personal, social, and environmental elements influencing physical activity are interrelated. It is important for health practitioners, program planners, and community leaders to understand that there are multi-level facilitators and barriers that influence physical activity engagement among rural-dwelling older adults. Interventions addressing personal, social, and environmental elements may be most effective in increasing physical activity levels among older adults.

The findings from this study suggest that older adults define physical activity in terms of everyday activities that have purpose or meaning in their lives. Many older adults described physical activity as running errands, doing house work, and yard work with very few defining physical activity solely as intentional exercise. Yet, many of the physical activity opportunities described by participants were intentional activity such as skating, swimming, and sports. This is important to consider when evaluating activity levels among older adults using intentional moderate-to-vigorous activity as the defining parameter. Physical

activity promotion among older adults needs to encompass a wide variety of daily activities that are relevant to the rural context, taking in account the definition of physical activity that many rural residents have, which may likely include both exercise or sport related activities as well as occupational activities such as farming, gardening, food canning, and general maintenance. How physical activity is measured is also an important consideration in determining levels of participation particularly among those who engage in daily activities (such as moderate-to-vigorous farming or agricultural tasks) that are not typically considered within the current physical activity guidelines, or may not be considered leisure-based.

Older adults in this study expressed value in daily activities to assist in maintaining their mobility and ensuring that they remain independent for as long as possible. Many older adults reported that physical activity was a facilitator of their independence and mobility. Physical activity must be valued and beneficial for older adults to remain engaged. Reinforcing the health benefits of activity is important in physical activity participation among this population as they continue to age, particularly in the area of independence which was perceived as important to them. Physical activity will assist in their ability to do yard work and housework as well as being able to get out to do grocery shopping and walk to the post office to conduct errands. Emphasis placed on daily activities and their influence on health may foster more physical activity participation among this population as it will reinforce activity for both purpose and meaning alongside personal health benefits.

This study reinforced that older adults perceive numerous health benefits of being physically active that can support and encourage health aging. From a health promotion perspective, focusing on the numerous health benefits received from engaging in regular physical activity may prompt less active or sedentary adults to become active however, for successful physical activity engagement to occur, there must be attention placed on the social and environmental aspect of activity as well.

Our study also reported a key element in older adults' participating in physical activity was to maintain and foster social relationships with others in their community including family and friends. The socialization aspect of physical activity may play a key role in recruiting otherwise inactive adults to a physical activity program. When designing activities or physical activity programs, promoting the social component of exercise may generate an increase in physical activity participation as this aspect was mentioned by several participants. Given many participants (n=6) in the study were widows, the sociability of physical activity engagement was perceived as a valuable aspect. Activities that incorporated a social component were highly received by participants. Physical activity classes were attended with an anticipation of the social hour to follow. This is an important consideration for physical activity programmers and senior's clubs in developing new activities and modifying existing activities to add this essential element into the programming. Adding more classes at the local gym or fitness centre may be of little value to older adults who are seeking the socialization component.

Gaining health benefits is important but the social aspect may act as a motivating factor to continue participating in physical activity among this population. Many participants were active as a means to visit with others or volunteer their services at a community organization or event. For example, "I've always been a community-minded person. I have always felt you need to be a part of it or you will feel left out" (Betty). Older adults hold an integral role of community building and support through their volunteer activity and experience therefore, creating and sustaining opportunities for engagement is vital to the health of the community. Having an opportunity to give back and continue to be involved in the community at all stages of aging is important to older adults. The role that older adults have as they continue to age is an area that needs to be considered by community organizations and planners.

Family members were also an important facilitator and occasionally a barrier in older adults participating in physical activity. The role of the family in encouraging activity was reported by older adults in supporting their attendance at their children and grandchildren's activities in the community. Ruth stated "It's nice to have family to take you to events)". Many participants valued the interaction with their family and looked forward to their contact. This is an important factor for family and community members to be aware of to continue to include and support older adults in their local events and organizational activities, particularly among those with no family close by or living alone.

This study revealed older adults perceived a safe and supportive community as an important element in their decision to be active, therefore rural

communities need to be mindful of aspects within the community's built environment such as ensuring safe sidewalks, providing good lighting, rest areas, and clear roads and pathways to encourage and support older adults to be active. As many older adults in this study expressed a fear of falling during adverse weather conditions, communities may reduce this barrier by providing a variety of affordable indoor opportunities for engaging in physical activity that are suitable for older adults as a safer and more desirable option during the winter months. Educating older adults on strategies they can use to reduce risk of falling may be beneficial as well as working closely with older adults to build their knowledge and confidence in benefits of physical activity in increasing strength and improving balance to help prevent falls from occurring.

Rural communities can ensure opportunities exist for older adults to continue contributing their time and abilities through their volunteer roles as well as age appropriate and accessible programs and activities within the community. Many of the participants related having their family and children in the community as an important facilitator of activity. For example, Ruth stated "I don't know how people without family close, like everybody has friends, but nothing is like your family". The community may consider more inter-generation contact between school-aged children and older adults in promoting and engaging in meaningful activities that are connected to the supportive nature of the community such as making birdhouses to display in the community or learning the skills of crochet or quilting to make blankets to donate to the needy.

Living in a safe community where older adults could be physically active was important to participants in this study therefore, towns can ensure their communities remain well lit and clear of hazards such as broken sidewalks or loose gravel. Providing a safe and accessible environment may enable older adults to remain active with confidence to continue participating in physical activity as they age.

As one participant quoted "We have this saying, we do what we can", health practitioners and community leaders need to do what they can to support and encourage older adults to be active and engaged in their community. Increasing physical activity requires a multi-level, socio-ecological approach to be effective and all areas must be considered when developing new initiatives and fostering community engagement. Ensuring older adults are able to engage in what they perceive as meaningful activities that include social interactions with others in a safe and supportive community may foster physical activity participation and thereby benefit health of this population.

Strengths

This study explored the perception of physical activity among rural dwelling older adults in Saskatchewan using qualitative description methodology. The strengths of this study lie in the chosen methodology, the researcher's own expertise, and the socio-ecological model that the study was based on.

Methodology. The qualitative description methodology used to guide this study brought out the perception of older adults while staying as close to the actual data as possible and in many cases using the exact words of the

participants. Gaining this inside view of the experience of the participants within their rural setting was thereby captured in the results of the study. Data for this study was generated from adults ranging in age from 67 to 94 years. Generating data from such a broad age-range of participants enhanced the richness of the study findings, allowing for the perspectives to be heard from the youngest category of older adults to the oldest. Participants were able to speak directly and in detail about their personal and social interaction within their natural setting that many have lived in most of their lives. This gave particular strength in the perception of the built environment such as infrastructure and opportunities experienced by this population in the rural setting. Capturing the perception of this segment of the Canadian population proves valuable in giving voice to the experiences of physical activity in rural communities among older adults that have yet to be heard.

Researcher Expertise. In addition to the methodology guiding this study, the researcher's own experience and expertise enhanced the study's strength. Neergaard, Olesen, Anderson, and Sondergaard (2009) suggest that the existing knowledge, experience, and thoughts of the researcher form the theoretical foundation in qualitative description. For over ten years as a counsellor in the health care field, the researcher gained valuable experience and insight into the art of interviewing individuals and groups while remaining as open and un-bias to the client's experience as possible. The ability to remain neutral in personal assumptions and past experience is a skill that takes time and practice. Engaging in a process of constant checking and questioning decisions and direction in

relation to the client experience is key in reducing interference from the counsellor, allowing for the thoughts, feelings, and experience of the client to be more fully embraced, making it their own story. Similarly, in qualitative research the researcher is the instrument used to generate the data through the questions asked (Magilvy & Thomas, 2009) whereby asking the right questions and carefully listening for the participant's answers is a key element.

The ability of the researcher to be aware of and check personal assumption and past experience with the intention of reducing incidence of those assumptions biasing the study is an important element when generating and analyzing qualitative data and reporting the findings. Therefore, having the experience in asking open-ended questions, knowing when to probe further, and when to change the direction of the conversion as well as questioning motives related to personal manifestations is a valuable asset in qualitative research which in this case, adds strength to the study. In addition to this skill set, possessing a solid understanding of the determinants of health, physical activity, and health status of the population, resulting from working within the public health - health promotion sector for many years enhanced the overall study by having solid evidence-based knowledge as a foundation to build this research on. The researcher's education and experience in health promotion practice and principles helped to form the conceptual framework guiding this study.

Socio-ecological Model. A multi-level approach based on the socio-ecological model was used as a guide in examining older adult's perception of the personal, social, and environmental elements that facilitate and inhibit physical

activity engagement. The use of this model was not intended as a rigid theory to dictate the data to be generated, but rather as a means to focus the study on a specific lens. Using the model in this way allowed the data to move from merely descriptive to useful and relevant in contributing to the understanding that the study was intended to deliver (Richards & Morse, 2013).

Within a population health promotion perspective, there are many factors that affect the health of the individual which extend into sectors outside of health such as education, environment, income, and housing, among others, commonly referred to as the social determinants of health (Raphael, 2009). Health of the individual is influenced by many interconnected elements at multiple levels therefore, to effectively study the influence of a given phenomenon such as physical activity engagement, a multi-faceted approach is necessary.

This study explored the personal, social, and environmental influences and the interplay among them as perceived by participants in their natural setting. Many interventions intended to increase physical activity have often focused on individual factors such as personal motivation, knowledge, and attitude without considering the potential influence of the combined social and environmental factors (Bauman, Reis, Sallis, Wells, Loos, & Martin, 2012) therefore, findings from this study make a valuable contribution to the growing literature on physical activity among older adults, particularly in the rural setting from a multi-level perspective.

Qualitative Rigor. Creswell (2013) outlines eight validation strategies for qualitative research to ensure the accuracy of the findings. These include

prolonged engagement and persistent observation in the field, triangulation, peer review, clarifying researcher bias, member checking, rich, thick description, and external audits. Creswell (2013) recommends using at least two validation strategies in a qualitative research study.

This study ensured accuracy by documenting the decision making process throughout data generation and analysis through journaling to clarify researcher bias and to allow for clear procedural and decision making audits to occur. The process involved in using journals to reflect on personal bias and theoretical influences as well as methodological decision making and influences is referred to as reflexivity (Glesne, 2011) and was used to ensure the accuracy and legitimacy of this research study. The data were also subject to a peer review where the research committee independently reviewed the data, analysis procedure, coding, and categorization for accuracy and consistency. Another method of ensuring rigor is to engage triangulation in the study (Creswell, 2013). According to Creswell (2013), triangulation occurs when data is gathered using a variety of techniques. For the purpose of this study, data was generated using methods of individual interviewing and observational data generation.

Limitations

While this study contained numerous strengths that make it a valuable contribution to the literature in the field, it also yields limitations that need to be considered when using the findings. The limitations lie within design methods that include sample size, setting, recruitment, as well as the generalization of the findings, and a novice researcher leading the study.

Methods. A challenge in constructing sound qualitative research is in choosing boundaries related to time, events, and processes (Creswell, 2013). For the purpose of this study, decisions were made regarding these elements that undoubtedly resulted in limitations. The participants in the study were purposively selected based on the following inclusion and exclusion criteria: the participants were willing and able to share their experience, were physically able to be active but could be either currently active or inactive, and all participants were 65 years of age or older and resided in a rural community. People under the age of 65 years or people who were unable to communicate in English were excluded from this study. The study consisted of 10 participants ranging in age from 67 to 94 years of age. Exploring the perspectives of participants among such a broad age range gave strength to the richness of the data generated however the sample size of 10 participants was relatively small and therefore may not represent the views of the entire of the community. Among the study participants, nine were female resulting in uneven gender representation; however, the voice of the male participant spoke of similar perceptions as the female participants. In addition, all participants were Caucasian and all perceived themselves to be physical active, leaving a gap in the data among the sedentary as well as the population of newcomers that resided in the communities. Although the participants who were already interested and motivated to participate in physical activity provided valuable insight, the perspective of the inactive segment remained unheard.

Another limitation to consider when using the findings from this study is the data was generated in the early spring when weather conditions were less than conducive to activity. The winter was perceived as long and cold by many of the participants who spoke of the harsh winter and icy conditions. The weather also impacted the method of data generation in the study forcing the researcher to use telephone interviews to connect with participants due to the icy highways and road closures in the area throughout that time period. Perhaps interviewing during summer and early fall seasons would yield different results in terms of environmental barriers perceived by participants. Yet, gathering data during adverse weather conditions opened the discussion for rich descriptions of the barriers perceived by many older adults living in a rural community where the physical environment can be unpredictable.

Novice Researcher. Even though this study was conducted by a researcher with essential skills in individual and group interviewing as well as knowledgeable in the field of physical activity and health, the researcher was inexperienced in conducting qualitative research. This inexperience could lead to increased risk of researcher bias or subjectivity when generating and analyzing data and reporting the study findings. The use of reflexive journaling throughout the data generation and analysis in addition to the on-going documentation of decisions and thought processes reduced the incidence of bias from occurring however according to Creswell (2013), how researchers write their findings is based on their experiences they bring to the research and cannot be fully separated. These limitations must be considered and findings used with caution

based on the fragmented data which may not be representative or generalizable to other rural communities in Saskatchewan or in Canada.

Future Research

Findings from this study uncovered the perception of physical activity among rural-dwelling older adults in Saskatchewan using a socio-ecological model and will add to existing research in the field. Using this qualitative description study as a foundation, further exploration can build on areas where more information is needed.

Defining Physical Activity. Physical activity can be defined in a number of ways. Participants in this study, consistent with findings from Witcher et al. (2007) defined physical activity in terms of work and purposeful engagement. Those who were active when younger also continued to be active into their older adulthood. This shared culture of engaging in meaningful activity over leisure activity warrants further investigation. In particular, further exploration into the defining element of physical activity among older adults and how it relates to meaningful engagement in activity among this population will lend way to developing strategies and interventions that will entice and engage older adults to be active, particularly among the sedentary. Gaining additional insight into meaningful physical activity perceived by older adults will assist researchers, health care providers, policy and program developers, and community leaders in establishing appropriate initiatives and educational materials to engage and sustain older adults in physical activity.

Personal and Social Elements of Physical Activity. Findings from this study reinforced that personal and social elements influenced physical activity engagement among older adults. Physical activity was facilitated by a desire to remain mobile and independent for as long as possible in addition to perceiving other health benefits, both physical and mental. Participants in the study were active adults who were engaged in their community. Future research could lead further into the perceived health benefits of being active as a motivating factor among older adults who are sedentary and those with chronic health conditions and poor health status.

Studying the sedentary population will add to the findings from the already active segment of older adults and may lead to further insight as to why some people are more active than others. Other sample variations that would be useful to explore among older adults relate to demographics such as gender, income, marital status, ethnicity, living arrangements, and social engagement would also enhance the findings. As all participants in this study had lived in a rural community all of their lives, future research would be useful in gathering the perception of newcomers and immigrants within the community to explore their perception of community support and opportunities facilitating their activity.

As the communities in the study had experienced a recent influx of newcomers through the expanded opportunities in local industry, examining the role of culture may yield rich data to add to the literature. Some participants spoke of their efforts to engage the newcomers with little success as they were said to stick to themselves therefore, gaining an understanding of cultural implications

would assist communities in better supporting and engaging this population in healthy practices and supporting social cohesion among residents in the community.

The process of aging related to physical activity is another area that would benefit from additional research. Many participants noted that they were physically active in an effort to remain mobile and independent yet others spoke of the need to slow down and reduce their engagement due to getting older. How older adults perceive aging as a facilitator or barrier to activity would help to understand what could be done to support activity as long as possible making it safe and enjoyable for older adults to continue doing. Arthritis was one of the more common health conditions experienced by participants in the study (n=5). What influence does pain caused by conditions such as arthritis have on physical activity participation? Is living with a chronic condition such as arthritis a barrier to physical activity or is having a chronic condition a motivator to take part activity among this population? Further exploration into the role of chronic conditions, pain management, and physical activity would be valuable to health providers in developing appropriate and effective physical activities, programs, and educational activities to support older adults in living a physically active lifestyle despite having health concerns.

In exploring the interaction between personal, social, and environmental elements that facilitated or inhibited physical activity, further research is needed to explore the relationship of family as both a facilitator and barrier. Further, the role of children and grandchildren in their proximity to participants would be

beneficial in uncovering what role family members have in facilitating physical activity.

Many participants had family members living close by that assisted in their mobility and encouraged activity and social engagement. However, for some, family were considered a barrier to activity through concerns about safety and well-being and therefore interfered with participant's confidence in their independence by suggesting that participants give up involvement in certain activities such as driving and riding a bicycle. Therefore, valuable insight could be gained by addressing the role of family members in older adults' physical activity participation. For example, if family is a key motivator to activity, more awareness of the importance of family in encouraging and engaging older adults could lead to improved health status. It would also benefit in understanding if family members stand in the way of older adults being fully engaged in activities by expressing worry or concern about their well-being. Therefore, exploring family member's perception of their aging parent(s) physical activity would be a valuable asset to this field of research.

In addition to family members influencing physical activity, older adults also perceived volunteer service in the community as a facilitator of physical activity. Many spoke of their role in and responsibility to volunteer in the community. Having this perception was an important facilitator of activity for many participants. Those who were physically active were also active in their community. This lends to further inquiry into community-based organizations and their importance in the rural setting in addition to participant's perception of

having purpose and meaning and how this supports physical activity. An area of exploration to assist in this understanding is exploring the role of volunteering in supporting physical activity among older adults in rural communities.

Environmental Elements of Physical Activity. From an environmental perspective, the most common barrier of physical activity among rural older adults in this study was the weather, particularly when conditions became icy. Participant's shared their collective fear of falling when outside and some spoke of a need for access to indoor places that are both cost and age appropriate for older adults. An area warranting further research is the use of indoor facilities in rural communities particularly during adverse weather conditions. Further exploration into the feasibility of a shared-use agreement between organizations such as schools, rinks, or community centres could prove valuable in determining the benefit of providing alternate opportunities for older adults in this situation. Further research could explore how indoor and alternate opportunities in rural communities influence physical activity engagement among older adults.

Examining the role of fear among the older adult population as a barrier to participating in physical activity will add a deeper understanding of this barrier which would be beneficial for health care practitioners in working with older adults. In particular, studying the influence of fear of falling among the older adult population from a community perspective in addition to individual and social elements would be extremely useful for those living in rural communities where services and opportunities are more limited than those in urban centres. For those with chronic conditions, education on specific health conditions and their

limitations from a community perspective as well as suggested modifications within the built environment could lead to increased confidence among this population thereby increasing physical activity levels.

Another area of related influence is the built environment. Participants in the study spoke of uneven sidewalks and icy or slushy roads as a barrier of being active. Although related to fear of falling, further research into specific elements within the built environment that facilitate or inhibit activity may uncover a wealth of information useful for town planners to access when building or modifying aspects within the community. This is of particular importance in rural communities where resources can be limited and income for infrastructure is less compared to urban centres.

Participants spoke of having access to a wide variety of physical activity opportunities in the community; such as the hockey rink or swimming pool however many did not utilize those facilities for their own physical activity engagement. The most common facility used by older adults was the senior centre where exercise classes and other social activities take place. Further exploration into what specific activities draw older adults in and what other communities offer that older adults participate in would assist in building on opportunities for appropriate and engaging activities for this population. Little information was generated from this study on the type of activities or facilities that rural men use for physical activity engagement which would be very valuable to explore. As the social aspect of physical activity was important to participant engagement, further research into this area must be explored with this social aspect in mind. As

walking was the most common intentional physical activity mentioned by participants, further research into the facilitating and inhibiting elements of walking could lead to further insight. The rural settings in this study would be an effective location to establish a pilot study of a community-based walking program incorporating individual health information and education as well as adding in the crucial social aspect to activity and utilizing the community strengths and opportunities wherever possible. Pre and post evaluations of the facilitating elements of this program could lead to providing the community with some valuable information in planning further activity programs suitable for older adults in all seasons.

Summary

This qualitative description study of the perception of physical activity among older adults in rural Saskatchewan offered a greater understanding of physical activity among the older adult population within a rural context. Findings from this study help to gain insight into perceived facilitators and barriers in rural communities that older adults perceived as influencing their participation in physical activity. Identifying the personal, social, and environmental elements that facilitate and inhibit activity provide a more comprehensive understanding of older adult's perceptions in rural Saskatchewan. Future programs and initiatives designed to increase physical activity participation among rural dwelling older adults need to consider multi-level elements and their interactions to successfully promote and support physical activity.

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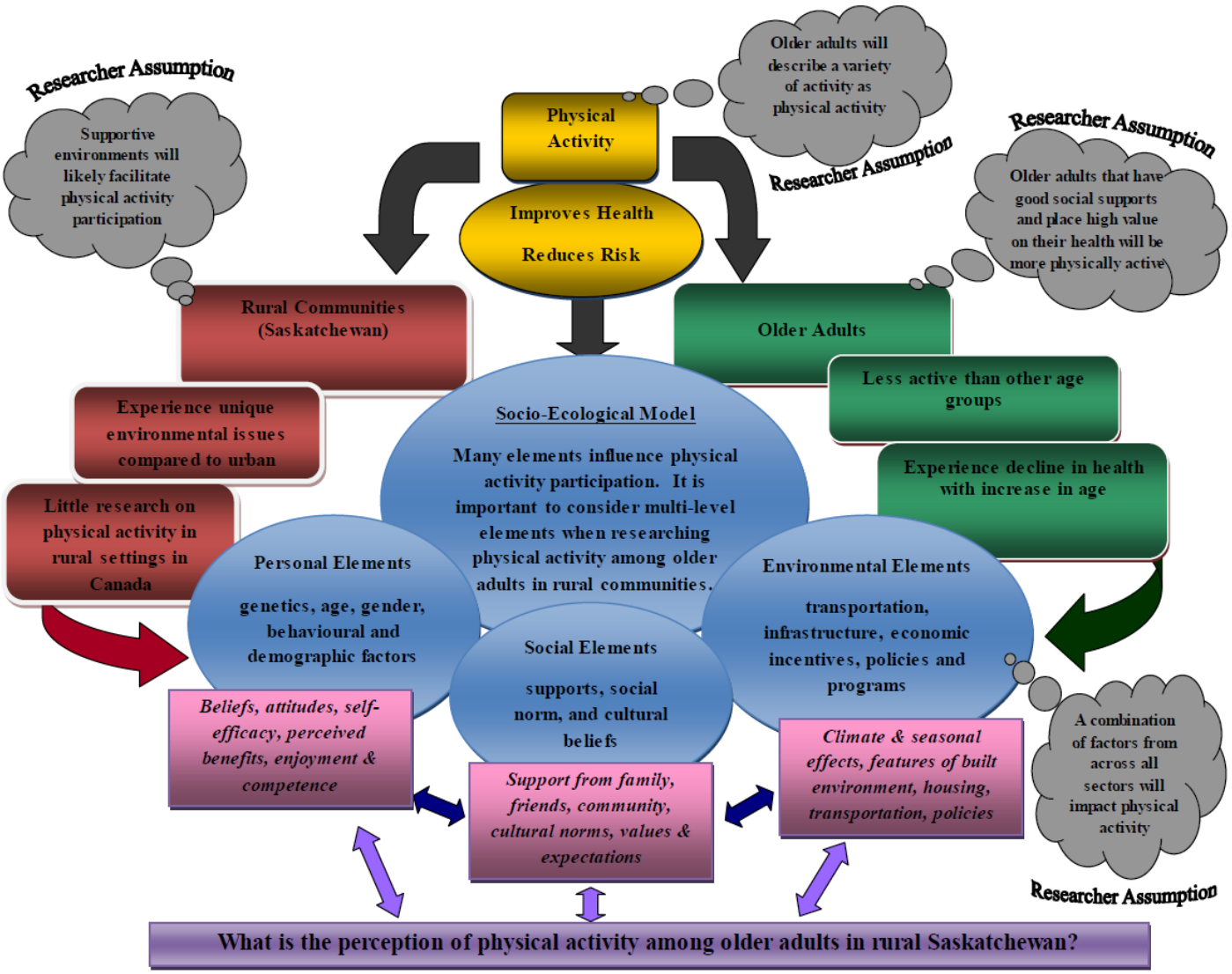
APPENDIX A

Conceptual Framework



APPENDIX B

Recruitment Letter

Study Title: Physical Activity Among Older Adults in Rural Saskatchewan

Principal Investigator:
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Master of Health Studies Student
Centre for Nursing & Health Studies,
Athabasca University

Contact Information:
(306) 842-8697
eachofus4@gmail.com

Information Letter

Purpose of this study:

There are many known benefits of physical activity yet the number of older adults getting enough physical activity each day is low. Among older adults, physical activity rates are even lower in rural communities compared to urban. This research study will explore the factors that make physical activity more difficult for older adults in rural communities as well as the factors that encourage and help older adults to be more active.

What will happen?

I would like to talk with adults, age 65 and older who live in rural Saskatchewan about their experiences with physical activity. I will interview you one-on-one, either in your home or another location of your choice. The interview will last about 1 hour, and will be recorded so it can be typed out afterwards. Your identity and the content of the interview will be kept strictly confidential by myself and the researchers on my thesis committee.

Benefits & risks:

There are probably no direct benefits for you being in this study. However, you will have a chance to tell me what helps you to be physically active and what makes it difficult for you to be active. What we learn from you will be helpful in planning programs and services to assist older adults in being physical activity.

The only risk to you is being uncomfortable about what you tell me. You may choose not to answer a question, and you may end the interview at any time. You may ask me to turn off the recorder so you can "just talk", knowing that your discussion will not be used as study data. .

At the interview, I will give you the names and phone numbers of individuals within Alberta Health Services who can counsel you if you feel upset or worried after the interview. These individuals have no affiliation with the research study so you may speak freely with them about your experience in this study.

Confidentiality:

We will keep everything you say confidential except when professional codes of ethics or the law require reporting and your right to confidentiality and privacy cannot be upheld. We will remove your name and any identifying information from the typed out interview. All electronic files will be kept on a password-protected computer. Any files with identifying information (e.g., your name and address) will be kept in a secure location separate from your interview responses. We will keep the information you provide for at least five years after we finish the study. The final report may contain your actual words but nothing will identify you. We will not use your name in any presentations or publications of the study results. We may look at the data from this study again in a future study. If so, the ethics board will review the new study to ensure we use the information ethically.

It's your choice:

You have the right to refuse to answer any questions. You can stop an interview at any time. You may request that the recorder be turned off at any time. If there was anything that you would like removed from the digital recording, we will be glad to do that as long as you ask before we analyze the interview. In the unlikely event that an illegal or unethical act is recorded, we will not be able to erase the recording and will be obligated to report such occurrences. You are free at any time to withdraw from the study. We would be happy to give you a report of the findings after the study is complete if you ask for it.

If you have any concerns about any aspect of this study, you may contact the Athabasca University Research Ethics Office at:

E-mail: rebsec@athabascau.ca
Phone: (780) 675-6718
Toll Free: 1-800-788-9041 ext. 6718
Fax: (780) 675-6722

Postal Address:
University Research Services, Athabasca University
1 University Drive, Athabasca AB T9S 3A3

Study supervised by: Dr. Jeff Vallance & Dr. Gwen Rempel. Faculty of Nursing and Health Studies, Athabasca University
This study has been approved by the Athabasca University Research Ethics Board

Athabasca University

APPENDIX C

Recruitment Poster

Are You an Older Adult Living in a Rural Community and Interested in Physical Activity?

We Want Your Opinion:

What helps older adults in rural communities be more physically active and what makes it difficult to be physically active? Do you find it easier to walk with other people? Are you afraid of falling? Do you have a place to go in your town to get some exercise?

By participating, your opinion will be heard which will help to improve programs and services in rural communities and help make it easier for older adults to be physically active.

Your participation is **entirely voluntary**. You will have the option to participate in an individual interview either in person or by telephone to share your views. In appreciation, you will be provided with a **$20.00 Gift Card** just for participating in the study.

For more information or to participate in the study contact:

Laurie Schmidt,
Weyburn, Saskatchewan
Principal Investigator
(306) 842-8697 phone
or by e-mail at eachofus4@gmail.com

Study supervised by: Dr. Jeff Vallance & Dr. Gwen Rempel
Faculty of Nursing and Health Studies
Athabasca University

This study has been approved by the Athabasca University Research Ethics Board

Athabasca University

APPENDIX D

Participant Consent Form

Laurie Schmidt
Master of Health Studies Student
Centre for Nursing & Health Studies
Faculty of Health Disciplines
Athabasca University
eachofus4@gmail.com
(306) 842-8697

Participant Consent Form

Project Title: **Physical Activity Among Older Adults in Rural Saskatchewan**

Do you understand that you have been asked to be in a research study?	Yes	No
Have you read and received a copy of the Information Letter?	Yes	No
Do you understand the benefits and risks involved in taking part in this research study?	Yes	No
Have you had an opportunity to ask questions and discuss this study?	Yes	No
Do you understand that you are free to refuse to participate or withdraw from the study at any time and that you do not have to give a reason.	Yes	No
Has the issue of confidentiality been explained to you?	Yes	No
Do you understand that the data you provide for this study may be analyzed in future studies?	Yes	No
Do you understand who will have access to the data?	Yes	No
Would you like a report of the research findings when the study is done?	Yes	No
Would you be willing to be contacted about participating in related studies in the future?	Yes	No

This study was explained to me by: _____ (Printed Name) _____ (Date)

I agree to take part in this study:

_____ (Signature of Research Participant) _____ (Printed Name) _____ (Date)

I believe that the person signing this form understands what is involved in the study and voluntarily agrees to participate.

_____ (Signature of Researcher) _____ (Printed Name) _____ (Date)

Research Supervisors:

Dr Jeff Vallance
Associate Professor
Alberta Innovates – Health Solutions Population Health Investigator
Tier II Canada Research Chair in Health Promotion and Chronic Disease Management
Email: jeffv@athabascau.ca
Phone: 1-866-441-4651

Gwen R. Rempel PhD, RN
Associate Professor
Centre for Nursing and Health Studies
Faculty of Health Disciplines
Athabasca University
1 University Drive,
Athabasca, AB T9S 3A3
grempel@athabascau.ca
1-855-833-5699

If you have any questions concerning your rights as a possible participant in this research, or any other aspect of this study, please contact the Athabasca University Office of Research Ethics at:

E-mail: rebsec@athabascau.ca
Postal Address:
University Research Services, Athabasca University
1 University Drive, Athabasca AB T9S 3A3

Toll Free: 1-800-788-9041 ext. 6718
Phone: (780) 675-6718
Fax: (780) 675-6722

Athabasca University

APPENDIX E

Interview Guide

Interview Guide

Assigned Participant #

Participant Information

Name: _____ **Date:** _____

Phone # _____ **Age:** _____

General Questions:

How do you define physical activity?
What types of activities would you consider as physical activity? Why?
How often are you physically active in an average week? What do you do to keep active?
What stops you from being more active? Why?
What encourages to you to be active? Why?

Socio-ecological Factors

Personal

How would you describe your general health? Do you have any health issues?
What would say are some benefits that you get from being active?
Is there anything about physical activity that makes you want to quit?
What is the negative side of being active & how do you deal with that?
What do you like or dislike about physical activity?
In what way has your involvement in physical activity changed/stayed the same as you have gotten older?
How active were you in your childhood? What did you do? How has that changed through the years?

Social

How important are family & friends in you being active? How do they support or encourage you?
Are you active in your community (volunteer, groups, clubs…)? What do you do?
What help are you giving to or receiving from friends/family/ others? (Are you caring for someone else – meals, transportation, visits…and/or is someone helping you?)
Are your friends and other people your age as active as you are? Why / why not?
Have you ever tried to encourage other people to be active? What is their response?
If you needed information on physical activity how would you get it? –where would you look, who would you talk to?
In your opinion, what do you think other people in the community think about older adults being active? – Does that encourage you or discourage you from being active?

Environmental - Community

What are some benefits of living in a rural community?
Where in this community are you physically active (walking-sidewalks, pool, gym, home...). Are there any facilities or areas that you don't use? Why?
How does living in a rural community affect your participation in physical activity?
What helps you to be active in your community? What things hold you back from being active or what stands in the way of you being more active?
What would you like to see for physical activity opportunities in this community (specific programs, facilities, supports...)
Are you happy living in a rural community? What would you change if you could? What would you keep the same?

Other (any additional information you would like to add/clarify):

APPENDIX F

Results Graphic

APPENDIX G

Ethics Approval Letter

Athabasca University
RESEARCH CENTRE

October 14, 2014

Mrs. Laurie Schmidt
Faculty of Health Disciplines
Athabasca University

File No: 21571

Certification Category: Human Ethics

Expiry Date: October 13, 2015

Dear Mrs. Laurie Schmidt,

The Faculty of Health Disciplines Departmental Ethics Review Committee, acting under authority of the Athabasca University Research Ethics Board, to provide an expedited process of review for minimal risk student researcher projects, has reviewed you project, 'Physical Activity Among Older Adults in Rural Saskatchewan'.

Thank you for your well done ethics application. A friendly suggestion is that since your study will be recruiting older adults, you may want to increase the font of your information letter and consent form to help improve readability. Additionally, some sections of your Information Letter read at a grade 12++ reading level. You may want to look at reducing the reading level, by shortening sentences and using simpler (plain) language where applicable. You can check the reading level in the Spelling and Grammar function in Word.

Your application has been **Approved on ethical grounds** and this memorandum constitutes a ***Certification of Ethics Approval***. You may begin the proposed research.

AUREB approval, dated October 14, 2014, is valid for one year less a day.

As you progress with the research, all requests for changes or modifications, renewals and serious adverse event reports must be reported to the Athabasca University Research Ethics Board via the Research Portal.

To continue your proposed research beyond October 13, 2015, you must submit an Interim Report before September 15, 2015.

When your research is concluded, you must submit a Final Report to close out REB approval monitoring efforts.

At any time, you can login to the Research Portal to monitor the workflow status of your application.

If you encounter any issues when working in the Research Portal, please contact the system administrator at research_portal@athabascau.ca.

If you have any questions about the REB review & approval process, please contact the AUREB Office at (780) 675-6718 or rebsec@athabascau.ca.

Sincerely,

Sherri Melrose
Chair, Faculty of Health Disciplines Departmental Research Ethics Board