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Social Support Resources of Older Adults in Rural Canada

by

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ABSTRACT

Social support is important for health and well-being and has been associated with reduced isolation in rural communities. Support from family and friends may become increasingly important as one ages, and may enable some seniors to remain living in their communities. The purpose of this project was to understand variation in the social support resources of older adults in rural Canada. This included variation in seniors' social networks, support networks, tasks and services received, and exchange patterns. Methods included secondary analysis of a national telephone survey of adults aged 65 and older residing in rural Canada.

Four key findings emerged. First, there was variation in the connections seniors had to family and friends. While some seniors had social networks averaging two people, others had social networks averaging 17. Who is present in social networks sets limits on who can be recruited into the support network. Second, who gets recruited from social networks into support networks varies. On average, social networks comprised 10 people, but support networks averaged three people. Spouses, children, middle-aged and local social network members were most likely to be recruited into support networks. However, recruitment depended on who was available to provide support. Third, not everyone receives support. Findings revealed that 15 percent of seniors who had a social network reported receiving no support, while nine percent who received support had few people who provided help with tasks like housework and

shopping. While some of that group may not need support and/or are providing help to others, some seniors may have only one or two people to rely on. Fourth, rural older adults are not passive receivers of support. Many provide a high number of tasks to family and friends, helping build social ties and maintain supportive relationships.

These findings point to the need for rural communities to be vigilant about evolving support needs of older residents. If seniors have few people who provide them with support, or if they rely on non-kin, who will provide care if needed? Services will be needed to fill the gap, and these services are not always available in rural areas.

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CHAPTER 1: INTRODUCTION

Background

Approximately 77% of older adults in Canada reside in urban neighbourhoods (Turcotte & Schellenberg, 2007), resulting in much research and policy attention being directed to the supportiveness of these places. The adequacy, accessibility, and availability of transportation, services, housing, and long-term care are popular topics within urban discourse (Phillips et al., 2005). Although encouraging, this research tends to bypass the situation of rural older adults who, although fewer in number, comprise a significant minority of Canadian seniors. With larger distances to stores, service centres, family, or even neighbours, one might expect that the needs and experiences of these older people differ from those of their urban counterparts. Rural communities are aging more quickly than are urban areas, with the median age rising by 3.5 years in rural areas and small towns between the years 1996 and 2001, compared to an increase of 1.8 years in urban areas (Statistics Canada, 2002). With this 'greying' of rural communities, policy makers and researchers are beginning to implement a rural lens, engaging in commentary focusing on the support of rural older adults. The availability of formal services often dominates this dialogue, yet there is emerging interest in the social support resources of rural older adults.

Some of the interest in social support resources in an aging context has arisen from literature documenting the multiple disadvantages of being an older person residing in a rural community. There is some evidence that compared to older people residing in urban areas, rural seniors have poorer health (Lau & Morse, 2008) greater activity limitations (Fast & de Jong Gierveld, 2008) lower incomes and fewer years of education (Ministerial Advisory Council on Rural Health, 2002) suggesting an increased need for support. Evidence of rural disadvantage is abundant in the literature, being associated with a lack of local stores and services, long distances to urban service centres, and limited public

transportation, which all decrease the formal support that may be available (Bess, 1999; Clark, 2007; Joseph & Cloutier-Fisher, 2005). Although it is acknowledged that rural communities are diverse politically, socially, and economically (Bryant & Joseph, 2001), rural disadvantage is presented as a consistent characteristic of rural communities.

Vulnerabilities of rural residents are compounded by the fact that many young people migrate out of rural communities for work or education, evidenced by the increasing average age of rural community members (Bryant & Joseph, 2001; Statistics Canada, 2002). With some older adults having fewer or no family members nearby, access to social support may diminish (Mechanic & Tanner, 2007). With the reduction in formal services, such as home care and public transportation, and the closure of some rural hospitals (Ministerial Advisory Council on Rural Health, 2002; Keating et al., 2001), older people may find they are only able to remain in their community if they have help with everyday tasks such as having a neighbour shovel snow in the winter, having a family member provide transportation, or having a friend check in on them (Scharf & Bartlam, 2006). If this social support is not available and they are unable to manage many of their everyday needs, they may need to move away to obtain formal services or be closer to family members (Joseph & Cloutier-Fisher, 2005), leaving behind familiar surroundings and people, essential components of belonging and well-being (Rowles, 1983). Many older rural people recognize they may one day have to move away from their rural community, and this is one of their primary concerns when thinking about the future (Manthorpe et al., 2004). Thus, social support research often emphasizes the importance of having social connections and receiving tasks and services to help older adults maintain their day-to-day rural life.

Rural seniors are not only depicted as having vulnerabilities, but also strengths. In Canadian rural contexts there are descriptions of strong, self-reliant rural people who greatly value their independence (Arbuthnot et al., 2007; Clark, 2007). This image is reinforced by the finding that rural seniors often remain independent for longer periods of time than urban seniors, engaging with formal services as a last resort (Keating et al., 2001, Lau & Morse, 2008). Although it

could be argued that independence is important to most older adults, it seems particularly salient to those in rural settings who often have a ‘make-do’ or stoic attitude (Lau & Morse, 2008). Despite ‘making do’ in the absence of formal services, evidence suggests that many rural seniors prefer to receive social support from family and friends to help them maintain their daily lives and independence (Mackenzie, 2004). Depicting rural people as independent and self-reliant may reflect realities about their interactions with formal services, yet we cannot infer from these depictions that they have few social support needs, or that their social support needs are met within their communities.

Perhaps because of the contrasting images of vulnerabilities and self-reliance, the focus of research on rural older adults tends to be on their role as receivers of social support (i.e. Kreager & Schroder-Butterfill, 2007). There is minimal emphasis on the contributions older adults make to family and friends. As family members and neighbours are more likely to provide resources to those who have helped them in the past (Sabatelli & Shehan, 1993), it is likely that older people do not just receive resources, but have provided, or continue to provide, social support to other people. Although rural data are limited, national data suggest that in 1997 nearly 60% of seniors contributed to the social support of others through visiting other seniors, helping with childcare, shopping, transportation, housework and household maintenance (Health Canada, 2002). In rural communities this proportion may be higher than the national data suggest, as providing help to family and community is often considered to be a personal and civic responsibility in rural areas (Howell & Cleary, 2007). As helping others is often part of rural culture (Scharf & Barlam, 2008), it is likely that older adults are not just passive receivers of assistance, but are also active contributors to the extent of their resources and abilities. These contributions may significantly influence the maintenance of their supportive relationships.

These bodies of literature suggest that older adults either have multiple vulnerabilities or multiple strengths because of their personal characteristics, where they live and their social and supportive connections. However, when it comes to social support it is not so black and white as vulnerabilities and strengths coexist. There may be subgroups of older adults that differ from the

norms as reported in the literature. These subgroups of rural seniors may have different connections to people, receive different tasks, and have differences in the sustainability of their networks. The presence of contrasting assumptions suggests rural seniors are not homogeneous in their social support resources. However, there is more to be learned about the degree of diversity present in connections to family and friends and the support that is exchanged with them.

Research Problem and Purpose

Social support is important for health and well-being and has been associated with increased coping abilities, decreased depression, a sense of stability, recognition of self-worth, increased life satisfaction (Langford et al., 1997), and reduced feelings of isolation in rural communities (Saito, Sagawa, & Kanagawa, 2005). Although adverse effects of having too much support have been noted (Cimarolli et al., 2006), there is overwhelming agreement that it is important for people to function and thrive in day-to-day life (Burleson & MacGeorge, 2002; Clark, 2007; Litwin & Haj-Yahia, 1996). Resources exchanged with family and friends may become increasingly important as one ages (Kim & Kim, 2003).

Despite ample evidence documenting the necessity of social support for well-being, rural literature from western countries is dominated by concern over the availability and accessibility of services, housing and transportation (i.e. Federal/Provincial/Territorial Ministers Responsible for Seniors, 2007), while the exchange of social support has received much less attention, especially in the context of aging. Where empirical work has been conducted, more has been reported on the receipt of tasks and services than on what older adults also contribute to relationships.

Currently, little is known about the social support resources of rural Canadian seniors. This is because we do not know how connections to family and friends differ among older adults, how support networks vary, what differences can be found in the receipt of tasks and services, or what older adults

provide to their network members to balance and maintain exchanges. Hence, we do not know how well supported older adults are in rural Canada. Without understanding differences among older adults in their social support resources, we have no way of identifying the rural Canadian seniors who are most at risk, or those who are well connected and supported.

The purpose of this project is to understand variation in the social support resources of older adults in rural Canada. This research contributes theoretically to how social support is understood by emphasizing the sets of tasks and services that are received from family and friends and the reciprocal exchanges that contribute to the continuation of support. This work also strengthens conceptual differences between having potential supporters who are on standby for when support is needed, and having family and friends who actualize their support potential by providing tasks and services.

This research contributes empirically by considering what is known about social and support networks in rural Canada and then further examining diversity in the social support resources of rural Canadian seniors. Until now, there has been little known about the *extent of variation* among rural seniors in their connections to potential supporters and actual supporters, or about how tasks and services received vary by support network types. This project fills these empirical gaps.

Finally, this study contributes to knowledge on a practical level. This research makes it possible to begin to identify which seniors are well connected and supported in day-to-day life, those who are receiving adequate support but may need further help in the future, and individuals who are at risk because of lack of social and supportive relationships. This information is crucial if supportive services are to be developed to address the day-to-day needs of rural seniors. It is important to know what exists before recommending how support can be supplemented. It is also important to know who needs help, in order to target services appropriately.

CHAPTER 2: CONCEPTUAL FRAMEWORK

This chapter begins by reviewing the concept of social support. Different approaches are examined, and a definition of social support is provided. This definition provides direction on how to explore social support resources. In the second half of the chapter, the key elements of social support resources are outlined. This framework is important as it guides how the empirical literature is reviewed in chapter three and how social support resources are measured in chapter four.

Social Support

Social support is a complex concept that has been studied extensively, both theoretically and empirically, over the last 30 years. Research on social support is well represented across various bodies of work, appearing commonly in the fields of nursing (i.e. Finfgeld-Connett, 2007), sociology (i.e. Broese van Groenou & van Tilburg, 2003), and psychology (i.e. Mancini & Bonanno, 2006), among others. With such a rich body of literature, the challenge is not to gather more information on social support, but instead to clarify the key approaches to the concept.

Researchers investigate aspects of social support that are most relevant to their discipline or interest. For example, nurses may research how social support positively or negatively affects the health and day-to-day coping of patients (Arbuthnot et al., 2007); sociologists commonly research social integration and social networks (Brissette et al., 2000; Burleson & MacGeorge, 2002); psychologists research cognitive and emotional processes of individuals such as their perceptions of social support and how they are influenced by past exchanges (Burleson & MacGeorge, 2002; Lakey & Cohen, 2000). Reflecting the variety of interests in social support, this research reviews studies from across various disciplines to identify common approaches to social support. This is an important first step for framing how social support is understood and defined in this dissertation.

Although there have been various approaches taken to explore social support, two stand out as being most frequently cited and relevant to contemporary discussions of social support. These include understanding social support as a set of tasks and services or as an exchange. The origin of these approaches, the circumstances under which they are studied, the questions they raise, and how they contribute to a definition of social support is the focus of this section.

Social Support as a Set of Tasks and Services

Social support is commonly regarded as tasks and services that are perceived to be available if needed, or tasks that are recently 'enacted' or received from other people (Wills & Shinar, 2000). From this approach, support is assumed to be the function of social networks, and may include a number of helpful tasks (Barker et al., 2006). This is evident in the following definition:

> "Social support [is]…the assistance and protection given to others, especially to individuals…assistance may be tangible as in financial aid, or intangible as in emotional help" (Langford et al., 1997, 95).

Task approaches do not assume reciprocity, focusing instead on types of assistance one individual receives from another to help them cope and adapt in their lived environments. To illustrate the range of tasks and services that may be received, tasks typically are categorized according to type of assistance. Support tasks are commonly categorized using labels such as informational assistance (receiving information for problem solving), appraisal assistance (receiving information for self-evaluation) (Langford et al., 1997), or affirmational support/validation (expressions that affirm the appropriateness of acts or statements made) (Langford et al., 1997; Wills & Shinar, 2000). Support tasks may also be categorized as emotional or instrumental assistance (i.e. DeJong Gierveld & Fokkema, 1998; Keating et al., 2003), with instrumental support defined as tangible goods and services or tangible aid; while emotional support

entails the receipt of caring, empathy, love, trust, and advice (Barthalow Koch & Kernoff Mansfield, 2004; van der Poel, 1993).

The task approach to social support originates in early empirical work dated between the 1940's and 1970's, when there was a growth of research from various disciplines illustrating the association between social support and physical and mental health. These studies ranged from rats that had a greater incidence of ulcers when exposed to electric shocks when they did not have littermates, to older adults who had higher rates of depression when they had less social interaction (Burleson & MacGeorge, 2002). Throughout the 1970's various theoretical papers emerged to explain how social support may protect individuals against negative health outcomes during times of stress. It was during this time period that attention began to focus on personal networks of family and friends and the important tasks and services that can be secured from these relationships.

One of the early theorists was Caplan (1974), who suggested that individuals have needs that can be satisfied through personal relationships. This argument was echoed in later reviews which highlighted the importance of social ties (i.e. Kaplan, Cassel & Gore, 1977). Caplan identified types of supportive relationships that may exist including marriages, parenthood, friendships, and neighbours. He posited that these relationships buffer against stress and disease because in these relationships the support receiver is treated as a unique individual and dealt with in a personalized manner. Family and friends are sensitive to the individuals' needs and what assistance is effective in addressing those needs, making social support conceptually different than support provided by formal organizations.

Caplan (1974) is also credited with articulating what tasks and services are included in social support, arguing that there are three important elements:

> "the significant others help the individual mobilize his psychological resources and master his emotional burdens; they share his tasks; and

> they provide him with extra supplies of money, materials, tools, skills, and cognitive guidance to improve his handling of the situation" (p.6).

Two years later, Cobb (1976) contributed to this discussion, with an emphasis on information. He argued that social support is "information leading the subject to believe that he is cared for and loved…esteemed and valued…belongs to a network of communication and mutual obligation" (p.300). In his paper, Cobb equates these categories to information leading to emotional support, esteem support, and goods and services. These are reflected in contemporary categories of tasks and services, which include emotional, informational and instrumental support.

Finally, Caplan (1974) contributed the idea that social support is provided by an individual or group on a continuing basis to help the receiver "deal with the general issues of life or…provide special assistance in dealing with particular long-term burdens… [it] may also be…utilized from time to time by the individual in the event of an acute need or crisis"(p. 6). Although Caplan did not focus on the older population, his argument that social support involves the receipt of tasks from an individual or group is reflected in the subsequent work of Kahn and Antonucci (1980). These researchers are widely cited in gerontological literature for their convoy model which places social support within a life-course perspective. The convoy model describes the people who are emotionally close and important to an individual, who are believed to carry with a person over time, helping to shape and protect them. The convoy, also known as the personal network, is important as it is the structure within which social support is received. Social support is defined in substantive terms by Kahn and Antonucci as "interpersonal transactions that include one or more of the following key elements: affect, affirmation, and aid" (1980, 267). Although it could be argued that this model has contributed more to current understandings of the closeness of social ties than the receipt of tasks and services, it paved the way for modern network research.

These original papers on supportive functions influenced the development and articulation of the stress and coping perspective which posits that social

support is linked to physical and psychological health because it buffers against stress. Having the potential for support, and believing that someone would be there in times of need, protects an individual from the negative effects of stress. The actualization of support, which is the receipt of tasks and services, also has a main effect of directly influencing well-being in stressful situations by fulfilling basic social needs (Cohen & Wills, 1985; van der Poel, 1993). Subsequent research has supported both models. Specifically the stress-buffering model holds true when social support is measured by the subjective adequacy of support. The main effect holds true when social support is measured by the number and frequency of social contacts (Chronister, Johnson & Berven, 2006; Cohen & Willis, 1985). Thus, the tasks and services received from family and friends can have a positive impact on physical and mental health.

Defining support as tasks and services received from other people is often used under circumstances where a researcher or policymaker is interested in whether an older person's basic needs are being met through the tasks they receive (i.e. Clark, 2007; Ding, 2004). In countries such as Canada and the UK, governments are turning more and more to families to support and care for their older relatives (Wiles, 2003). In these contexts, social support is considered the assistance older adults receive to function in their day-to-day lives. This assistance includes tasks and services such as transportation to medical appointments, information on services, and help with taxes. Here, social support is understood as a commodity, something individuals have rather than something they exchange (Barker et al., 2006).

Despite many researchers acknowledging the multidimensional nature of social support, there is still a significant amount of research that considers only sets of tasks and services received. This approach carries with it the assumption that receiving tasks is beneficial and can help to protect an individual from day-to-day stresses. However, a growing number of researchers are beginning to question whether the receipt of tasks is always positive and beneficial.

First, the perceptions of the provider and recipient of support are missing when support is defined as a set of tasks and services. This is problematic

because negative perceptions may detract from the value of support. For example, some older adults may receive tasks and have their basic needs met, yet may have low levels of satisfaction with this assistance because of perceptions of why the task is provided, or because of tensions or interpersonal conflicts in their relationships with the providers (Carpentier & Ducharme, 2006). Social relationships may be beneficial to some people, but may also be deleterious if they create rather than solve problems (Antonucci et al., 2004). This has been commonly noted in some literature reviews on social support. For example, in a literature review on grandparent support to families with disabled children, Mitchell (2007) found that interactions can be negative due to conflict or inappropriate assistance, or grandparents not wanting to provide assistance but feeling obliged causing stress and personal costs. In addition, it has been suggested that negative interactions may occur during the giving or receiving of tasks when an individual has too many demands placed on them, when others are critical of them, when others are prying into their personal affairs or taking advantage of them (Hupcey, 1998; Liang et al., 2001). Tension may also be present when reciprocity is absent or not anticipated. This is discussed more fully in the section on the exchange approach to social support.

Secondly, there has been some debate on whether tasks received must match current needs for social support to be positive and beneficial. One view is that all resources are assumed to have beneficial effects, and this is reflected in the common practice in quantitative studies of using a composite score of instrumental, emotional, or informational tasks received to represent support (i.e. Brown et al., 2003; Guiaux et al., 2007; Klein Ikkink & van Tilburg, 1999; Liang et al., 2001). It is argued that individuals do not have to be under stress, or have particular needs, for these tasks to be beneficial (Wills & Shinar, 2000). On the other hand, there is the argument that at certain times in life the experience of stress will be higher and assistance will be more beneficial if offered at times of increased stress. This argument appeared in early work illustrating how social support is helpful during events such as the recovery from illness, bereavement, or entering long-term care (Cobb, 1976). This approach is also reflected in current studies investigating how social support may protect older adults experiencing life transitions and illness (i.e. Anderson et al., 2006; Arthur, 2006;

Chao et al., 2008). Despite these arguments, there is little direct evidence to support either of these positions as "rarely…are the actual needs of the recipient taken into consideration when the amount of enacted support is assessed" (Hupcey, 1998b, 315).

Finally, research is unclear whether the receipt of excessive instrumental, informational, or emotional tasks is helpful. One argument is that older adults may feel that they are overprotected if they receive too much instrumental support; reducing their sense of independence and control (Cimarolli et al., 2006). Additional research suggests that the type of task received may influence what is considered too much support. For example, Klein Ikkink and van Tilburg (1999) found that older adults who are over-benefitted with instrumental support (i.e. they receive more instrumental support than they provide) are likely to continue their relationships; while older adults who are over-benefitted with emotional support (i.e. they receive more emotional support than they provide) are more likely to dissolve their relationships. These mixed findings indicate a gap in what is known about how the number of tasks received influence benefit, and how type of tasks received may moderate this relationship.

Approaching social support as a set of tasks and services is of value for addressing older adults' social support as it offers insight into the tasks that are received from family, friends and neighbours to help older adults cope and adapt in their rural life. These tasks and services may help in dealing with general life issues, chronic problems, or acute needs and thus help to distinguish rural seniors who may need assistance from formal services from those who are likely not to need such services. There is the question of whether support should be presumed to be beneficial in all cases and under all circumstances, and it is clear from empirical evidence this is not always the case. Thus, the receipt of tasks and services does not fully inform on older adults' social support, as it provides information on what tasks are received during a certain period of time only and not whether tasks are needed, wanted, useful, or even positive. Nor does this research discuss the possibility of both the receiving and the giving of support, which is an important aspect of relationships with family, friends and neighbours.

Social Support as an Exchange

Presently “much research defines social support as the exchange of various forms of informal assistance” (Guiaux et al., 2007, 458). Consequently, a second approach to social support is that it is the exchange of tasks and services between at least two people (Langford et al., 1997). From this perspective, support is assumed to be part of an interdependent relationship involving give and take between actors, either over a recent time period or over the life course. Tasks exchanged may include valued assets, services or sentiments, and reciprocity is fundamental to this conceptualization (Langford et al., 1997; Silverstein et al., 2002).

Support as an exchange is defined as “the process of exchange of materialistic or psychological rewards between actors on the basis of a norm of reciprocity” (Kim & Kim, 2003, 439). According to this application, if more tasks are offered by one person than another, the exchange is no longer balanced and one partner will have more power in the relationship (Klein Ikkink & van Tilburg, 1999). However, humans strive for fairness, and if exchanges are unbalanced the actor that is contributing less will attempt to regain balance by providing more tasks. This reciprocation is necessary to maintain a positive relationship and receive future assistance (Sabatelli & Shehan, 1993). Indeed, if there is a current imbalance and no expectation of future change, relationships may be terminated (Klein Ikkink & van Tilburg, 1999).

The literature on support as an exchange is heavily influenced by social exchange theory. Those credited with the emergence of social exchange theory include Homans (1958) who made the first explicit statement of social exchange theory, Blau (1964) who drew upon economic principles of the market model and applied them to social life, and Thibaut and Kelley (1959) who focused on the interdependence of individuals in relationships. These exchange theorists did not directly study family issues (Sabatelli & Shehan, 1993), instead paving the way for others such as Emerson (1976) who argued that it is important to look at balance in relationship dyads, focusing on concepts such as dependence, commitment and power (Cook & Emerson, 1978; Sabatelli & Shehan, 1993),

Edwards (1969) who made the explicit link between exchange theory and family studies, and Nye (1978, 1980) who is credited with applying social exchange theory to intimate relationships.

Dowd (1975) is recognized as one of the early gerontologists who moved forward current thinking of social support as an exchange. In his work, Dowd argued that during exchanges, if more tasks are offered by one person than another, the exchange is no longer balanced and one partner will have more power in the relationship. Power occurs when one actor values the rewards of the exchange more than the other, and this may lead to dependence. Dowd suggested that older adults' exchanges may be unbalanced when they do not have resources to provide, or their assistance is undervalued. He states that "because power resources decline with increased age, older persons become increasingly unable to enter into balanced exchange relations with other groups with whom they are in interaction" (1975, 584). Acknowledging that this piece of work is dated, and that "in reality… most older people have resources to exchange, including love, experience, wisdom, time, skills, money and real estate" (McPherson, 2004, 135), current studies also consider situations where older adults are net providers of support (i.e. Kim & Kim, 2003).

Gerontologists who approach social support as an exchange of tasks and services tend to be those interested in researching social relationships, including how relationships develop, are maintained, and how they end (i.e. Kim & Kim, 2003; Klein Ikkink & van Tilburg, 1998). They believe that the exchange of tasks is an important part of relationships and their continuity, and that older adults with balanced exchanges are more satisfied with life (Kim & Kim, 2003). They assume that older adults may discontinue relationships with others because they are giving more assistance than they are receiving. Yet, they are also interested in exploring situations where unbalanced exchanges exist but relationships continue (Klein Ikkink & van Tilburg, 1998). Interest in the continuity of relationships implies that support is not a one time occurrence, but is a sequence of exchanges that take place over time. Patterns of reciprocation provide insight into the sustainability of social support; suggesting that social support is not just about what is currently given and received, but what has been exchanged in the

past and can be anticipated to be given and received in the future. When investigating the support of older adults in rural areas, the exchange approach can inform what tasks and services might be available in the long-term.

The exchange approach to social support is important for understanding the origins of social support and why it continues to be exchanged. However, this approach is not without its challenges. Indeed, there are questions concerning the necessity of having balanced exchanges to be considered social support, as well as what constitutes balance or lack of balance. These questions are conceptual and methodological in nature, and empirical literature is consulted for the purposes of examining these questions.

First, it has been argued that some tasks may be provided for altruistic reasons or as a result of cultural values, and not necessarily to repay previous assistance (Grundy, 2005; Neufeld & Harrison, 1998). For example, Silverstein et al. (2002) found in their longitudinal 26 year study that levels of assistance from children increased over time, even for children who received no early transfers from their parents (i.e. their parents were emotionally distant, did not commit time to them or provide financial assistance). This suggests that either social norms or altruism are driving the provision of tasks, rather than the principle of reciprocity. Thus, tasks and services may be provided because it is a positive gesture or because society demands it, and not because assistance is expected in return. There is a large body of literature on filial obligations that further informs this perspective (i.e. Lowenstein & Daatland, 2006; Stuifbergen et al., 2008).

Secondly, there are different perspectives pertaining to whether the reciprocation of tasks needs to be immediate or long-term. Many studies consider tasks exchanged over the past year (i.e. Liang et al., 2001) or 6 months (i.e. Perren et al., 2004), assuming that exchanges are relatively frequent and regular. They contend that exchanges that take place outside this time frame are not counted as social support. However, longitudinal work that includes exchanges over a much larger time frame, challenge this assumption. This longitudinal work assumes that exchanges take place over a lifetime. For example, Shaw et al. (2007) found in a sample of older adults that tasks provided decline with age,

while tasks received increase with age. The authors explain this through the concept of banked support; that providing more assistance earlier in life contributes to balance when more assistance is received later in life. Thus, current imbalance is not always negative or unsustainable as it may be influenced by past exchanges.

The time period over which assistance is reciprocated may depend on the person with whom tasks are exchanged. A growing body of research suggests that there are different rules of exchange based on type of relationship. For example, Boneham and Sixsmith (2006) found that neighbours provided immediate assistance to help fix a problem, friends shared regular patterns of exchanges, and family reciprocity was built over a lifetime. These findings are supported by Klein Ikkink and van Tilburg (1999) who found that close kin relationships were most likely to continue when exchanges were unbalanced, whereas relationships with less close kin, friends and neighbours had a higher chance of being discontinued. Thus, close kin may be reciprocating for past assistance to help balance the relationship, illustrating long-term reciprocity in families. Similar findings are summarized by Silverstein et al. (2002) who argue "the long time lag between investment and return on investment is what may differentiate exchanges in intergenerational relationships from exchanges in other relationships, such as friendships, where the demand to reciprocate is more immediate" (p. S12). As the dataset used in this study is cross-sectional, life-course exchanges cannot be examined. Thus, it is important to recognize that an apparent lack of reciprocation may not be accurate.

There is modest evidence suggesting that tasks do not need to be given to the same person from whom they were received in order for support to be defined as an exchange relationship. Some research is based on the notion of generalized exchanges, that is "providing help to someone who was not involved directly in the initial exchange" (Liang et al., 2001, 521). There is evidence that generalized exchanges do occur, particularly in families and social networks. Neufeld and Harrison (1998) found that generalized reciprocity occurs in families when individuals care for older relatives to repay them for all they have done for other family members. In addition, Klein Ikkink and van Tilburg (1998) found that

balance between individuals does not need to be restored if there is generalized reciprocity in networks. Both of these studies were conducted in urban settings and it is not known how generalized reciprocity might operate in rural contexts.

Finally, exchange theory makes no assumptions about whether the type of task or service received must match what is provided (i.e. Klein Ikkink & van Tilburg, 1999). This is critical, as individuals have different abilities to provide tasks and services, and may have different needs for services in return. For example, an older mother may require assistance with housework and receive it from her daughter. To reciprocate, the mother might provide her daughter with emotional support. This exchange may be considered balanced from the perspectives of the mother and daughter, however researchers who focus only on instrumental exchanges may miss this exchange and report the mother as a net receiver of tasks. Thus, to acknowledge the different strengths of individuals in the tasks they provide, it is assumed in this dissertation that the type of tasks given and received do not need to match to be balanced.

Support as an exchange is important as it offers insight into the reciprocal nature of social support. Older adults may have interdependent relationships with family and friends, exchanging tasks and services over various lengths of time. The idea of balance of tasks provides insight into whether supportive relationships are likely to be created, maintained or end. Although there is a theoretical assumption that exchanges should be balanced to be maintained, there are a variety of reasons why imbalances may be sustained. It is clear from the literature on intergenerational exchanges that some tasks are provided for altruistic reasons or because of familial obligation. Thus, it cannot be assumed that older adults' exchanges must be balanced to be considered supportive. Yet, patterns of exchanges are still relevant as they may provide further insight into whether future support can be anticipated.

Two approaches to social support have been identified and reviewed for their theoretical contributions. Support as a set of tasks and services contribute the idea that social support is a commodity, one that is received from family, friends and neighbours. These tasks may help with general issues of life, chronic

issues, or acute problems. Taking into account the tasks and services received by rural older adults is helpful for understanding what assistance family and friends currently provide to help them in their day-to-day lives.

Support as an exchange of tasks and services suggests social support is a process of give and take. This approach is different than understanding social support as a set of tasks and services received, as it is assumed that exchanges can take place over various periods of time. The implication is that some patterns of exchanges may be more sustainable than others. Where older adults who are receiving tasks may be currently living well, those who also provide tasks to others may have more enduring exchanges. When considering the social support resources of rural older adults, it is useful to consider not only what support is currently received, but also the exchange patterns that could contribute to enhanced support.

Taking these two approaches into consideration, social support is defined in this dissertation as *positive exchanges of instrumental, informational and emotional tasks and services with family, neighbours and friends.* Tasks provided under situations of stress or conflict (for the provider or receiver), or the receipt of unwanted or unreciprocated tasks may not be supportive or helpful to older adults. Therefore, the evaluation of the exchange as positive is included in the definition of social support. This definition will frame the way the empirical literature is reviewed in chapter three and how social support resources are measured in chapter four.

Social Support Resources

Guided by the definition of social support, social support resources are conceptualized in this dissertation as including four elements: 1) family and friends with close ties to the older adult who create the potential for support to be received (social network), 2) family and friends from whom tasks and services are received (support network), 3) the set of tasks and services received (tasks), and 4) the balance of tasks and services received and provided (exchange

patterns). In this section, theoretical literature is used to outline each of these elements.

Social Network

Social networks can be defined as "the collection of interpersonal ties that people of all ages maintain in varying contexts" (Litwin, 2001, 516). Social capital theorists (i.e. Gray, 2009) and some network researchers (i.e. Litwin, 2004) consider ties to formal organizations, such as clubs and churches, along with informal ties to family members and friends, as part of an individual's social network. As the purpose of this dissertation is to understand the social support exchanged within "informal" networks, the social network of interest includes the family members, friends and neighbours to whom individuals have ties (Keating et al., 2003).

In aging literature, researchers often consider egocentered social networks (Faber & Wasserman, 2002), meaning "there is dominant interest in sets of dyadic relations, all of which involve the focal point" (Stone & Rosenthal, 1996, 80). The focal point in this body of research is the older adult, and the focus is on the ties they have to various individuals in their network. Similar to previous gerontological studies, this study is focused on egocentered social networks.

Social networks inform social support resources of older adults because they are the structure from which support may be accessed (Gray, 2009). However, social ties may or may not be supportive (Litwin, 2001). Having ties to others can be thought of as an individual resource, developed through past and present activities. These ties indicate the people who could potentially be drawn on to provide support if and when it is needed. Ultimately however, whether support is provided is contingent on the attitudes of others, including their willingness and ability to help. Social networks also have a significant role in social support because believing that people are available when needed helps to buffer stress (Cohen & Wills, 1985; van der Poel, 1993).

Knowing about variation in social networks is important. This is because older adults who are socially isolated have few resources to draw on when needed, while individuals embedded in rich and diffuse social networks may receive a greater variety of support (Litwin & Landau, 2000). The social network therefore informs on social support potential.

Support Network

One of the early researchers to apply network research to support networks was Wellman (1981) who defined support networks as a set of actors connected by ties that represent how resources 'flow' from one person to another. He maintained that support networks concern the actual transfer of resources, a distinction which separate them from social networks. Current researchers conceptualize support networks as including 1) formal support networks, which include social and health care personnel who provide tasks and services, and/or 2) informal support networks that comprise relatives, friends and neighbours from whom support is received (i.e. Duner & Nordstrom, 2007; Keating et al., 2003). In this dissertation support networks are defined as the family members, friends and neighbours who are part of the social network, who actualize their potential by providing tasks and services to the older person.

The distinction between social and support networks is an important one. In comparison to social networks, support networks likely are smaller and more focused on family members (Peek & Lin, 1999; Scharf & Bartlam, 2006). As a result, variations in network composition are likely present. Knowing about variation in the composition of one's support network is relevant because it may influence the number and types of tasks and services received (Faber & Wasserman, 2002) which are important in meeting the day-to-day needs of older adults (Cohen & Wills, 1985; van der Poel, 1993). The support network therefore informs on the individuals who actualize the potential to provide social support.

Tasks

Social support is actualized when tasks are received from or provided to network members. Little is known about the everyday exchanges of older adults. Yet, variation in the number and types of tasks and services received may reflect diversity among older adults regarding their needs for tasks and their willingness to accept support. It may also reflect the attitudes of their network members. Older adults who receive a greater number of tasks have support network members with the time, physical capacity, and inclination to provide needed supports (Gray, 2009).

Tasks and services may be instrumental, emotional or informational in nature, and may be important to seniors for a variety of reasons. Instrumental support is significant as it can help to solve practical problems. Emotional support may influence the appraisal of life events, enhance self-esteem, reduce anxiety or depression, and motivate coping. Information support may increase available information, help with obtaining services and lead to more effective coping (Wills & Shinar, 2000). Together, these tasks and services have also been linked to better health and well-being (Langford et al., 1997) and reduced feelings of isolation in rural communities (Saito, Sagawa, & Kanagawa, 2005).

Support networks provide different tasks depending on the composition of the network (Wenger, 1997). Number of people in the network, their relationship, age, proximity and mix of women and men, may influence the types of tasks received, contributing to our understanding of the variation in the actualization of social support. Each of these associations will be reviewed in chapter three.

Exchange Patterns

Tasks received provide some information on actualized support, but are not enough to understand social support resources of older adults. This is because tasks may currently be received, but little is known about the extent to which this support may continue in the future. Understanding patterns of social support exchanges can help fill this gap.

There is a theoretical argument that if the receipt of support tasks is to be continued, reciprocity is necessary. Social exchange theorists would argue that in cases where individuals receive more support than they provide or where they provide more support than they receive, relationships may be discontinued (Sabatelli & Shehan, 1993). This is because humans strive for fairness, where they receive and give equal amounts of support. Reciprocity is important because it helps to avoid feelings of indebtedness or exploitation which can end relationships (Klein Ikkink & van Tilburg, 1999).

Some contemporary researchers have challenged the notion that balanced exchanges are the most advantageous. Liang and colleagues (2001) argue that while reciprocity does have a significant association with psychological well-being, "over-benefiting is associated with increased distress, whereas under-benefiting has the opposite effect" (Liang et al., 2001, 520). They argue that social exchange theory may apply to casual acquaintances, but with close friends and family members "concern for the other's welfare is the rule" (p.520). Lowenstein and colleagues (2007) have supported this argument, stating that having the ability to be an active provider in exchanges enhances older adults' life satisfaction. In their research they found that 1) older adults who provided more help to their children than they received reported the highest life satisfaction; 2) those who had balanced exchange patterns had high levels of life satisfaction; and 3) in line with exchange theory, older adults who were mainly receivers of tasks had the lowest level of life satisfaction.

These theoretical arguments suggest that balanced exchange patterns, along with patterns where older adults are high providers of tasks, may be the most satisfying. These exchanges may attract future support as reciprocity exists and tasks are being provided which help to promote social integration, and perhaps emotional closeness, with potential supporters (Midlarsky, 1991). Therefore, in this dissertation exchange patterns will be used to hypothesize the availability of future support.

CHAPTER 3: LITERATURE REVIEW

This chapter presents a review of what is known about social networks, support networks, tasks received and exchange patterns. For each of these social support resources there is a review about what is known about the variation in each in the context of rural Canadians, and what can be learned from other bodies of literature. Questions that arise from the empirical literature are considered, along with any gaps that exist and where research may need to be developed further. At the conclusion of this chapter, four main research questions are outlined and are situated within the context of these bodies of literature.

Variation in Potential for Social Support

As outlined in chapter two, social networks include the family, friends and neighbours to whom older adults have ties. These are the people who are connected to older adults and provide the potential for support (Gray, 2009). The availability of social networks is important to explore because they are the source of support networks. A strong indicator of support potential is network size. Seniors with fewer connections to family and friends may be socially isolated and require some assistance connecting to people and services, whereas individuals who have larger social networks have greater potential for the receipt of services and tasks when needed (Litwin, 1997; Wenger & Keating, 2008).

Social networks of some rural older Canadians are fairly large and heterogeneous. In their study of 1,322 older people living in rural Canada, Dobbs and colleagues (2004) found that on average social networks included 10 people. The vast majority of seniors had social networks that included both men and women (96.1%), a mix of age groups (94.6), a mix of family members and non-kin (96.8%), who lived both inside and outside the community (90.2%). These findings suggest that rural Canadian seniors are embedded in good-sized social networks, where most have the potential for being well supported.

While these findings inform on the average characteristics of social networks and illustrate some differences among rural seniors in their potential for social support, what these findings do not indicate is the extent of variation. Are the majority of older adults well connected to family and friends? Are there seniors with small social networks who need help connecting to potential supporters? If so, what proportion of rural older adults has restricted networks? Answers to these questions are important for understanding the extent of variation among rural seniors' social support potential.

While the size of older adults' social networks may vary, researchers have also found diversity in the characteristics of social network members. Considerable research conducted in Canada (Stone & Rosenthal, 1996), the US (Fiori et al., 2006), Israel (Litwin, 2001), Finland (Melkas & Jylha, 1996), and the Netherlands (Aartsen et al., 2004) has sought to develop typologies of social networks of seniors. Despite being developed with seniors in different countries and while using different variables and methods of analyses, these typologies have commonalities (Fiori et al., 2006; Wenger & Keating, 2008). Most researchers have identified limited or restricted networks, which are small networks with few ties; a family based network, often focused on local immediate family; a friend network composed mainly of friends and neighbours; and a diverse network that is large and heterogeneous, comprised of kin and non-kin members. These commonalities suggest that older adults likely differ in the number of people to whom they are connected, and with whom they are connected.

Data from rural Canadian seniors have yet to be analyzed to derive social network typologies. Thus, it is not known whether these distinctions are present, or whether social network types in rural Canada are more homogeneous in composition. With assumptions that rural residents live in tight-knit communities it is possible that rural networks are less heterogeneous than other geographic locations. Further research is also needed on the characteristics of older adults who have each social network type, as this may help to identify which older adults have greater or more limited support potential.

Variation within Support Networks

Support networks are a subset of social networks, and include the family, friends and neighbours who actualize the potential to provide support. These networks are smaller than social networks, averaging only 3.4 people in rural Canada (Dobbs et al., 2004) and 3.1 people in Sweden (Duner & Nordstrom, 2006). The proportion of Canadian rural seniors who have support networks that include a mix of men and women (66%), a mix of age groups (65%), a mix of family members and non-kin (61%), who live both inside and outside the community (54%) are lower than those found with social networks (Dobbs et al., 2004). This suggests that although rural seniors are socially connected to a diverse group of people who provide the potential for support, support tasks are received from a smaller and relatively less diverse group of family and friends. Additional findings from the Canadian rural project reveal that approximately 20% of seniors report receiving tasks only from females, 22% receive tasks only from close kin, 15% receive tasks only from middle-aged network members, and 39% receive tasks only from only those living in the community (Dobbs et al., 2004). These findings are significant as despite diversity in the overall characteristics of support network members (including their age, gender, relationship, and proximity) older adults may have distinctly different support network types. Some seniors may receive support only from local peers, whereas others may receive tasks mainly from family members outside the community. Understanding the extent of diversity among support network types found in rural Canada can provide valuable information on who is most likely to support seniors in rural contexts.

A typology of support networks has yet to be created for older adults in Canada. However through qualitative and quantitative data, support network types have been developed from data collected in rural Wales. Wenger (1996) found variation among rural older adults in their connections to support network members, which she describes as comprising five social support types. These include a local family-dependent support network, a locally integrated support network, local self-contained support network, a wider-community-focused support network, and a private restricted support network. Using variables similar

to Wenger, Litwin (2001) discovered that, while network types were similar in a national sample of seniors in Israel, neighbour networks and restricted networks were more prevalent. Fiori and colleagues (2006) also found network types that were comparable to Litwin and Wenger, but found two types of restricted networks instead of one. There was a “nonfamily network” and a “nonfriends network” which they state are unique to American culture. What is learned from similarities among these support network types is that there are likely diverse networks, family networks, friend networks and restricted networks located in rural Canada. However what is not known is whether there are additional support network types unique to rural Canada. With rural population density lower than in Wales, Israel, and America, and with greater isolation of rural communities in Canada, differences may be observed in the composition and prevalence of support network types.

Further information on the support network types of older adults is limited. This is because of conceptual and methodological differences in how social networks and support networks are understood. Most network researchers do not distinguish between social and support networks. They tend to combine the family, friends and neighbours that one has ties to, who may or may not provide support, labelling this network the social or personal network (i.e. Aartsen et al., 2004; Fiori et al., 2006). This makes it difficult to identify which network members actualize their support and constitute what is conceptualized in this dissertation as a support network. In addition, some researchers conceptualize support networks as including both formal and “informal” members. For example, Duner & Nordstrom (2007) combine formal and informal network members into one support network. They explain that formal networks (including social and health care professionals) together with informal networks (including relatives, friends and neighbours) form the overall social support network. These support networks, which focus on the interplay of supports from different sources, are useful for informing how support from different sources work together. However, in rural contexts, where there may be a lack of formal services, it is important to understand the extent to which family and friends are present and active in exchanging support with seniors. This is why these relationships comprise the support networks under investigation.

There are large gaps to fill in our knowledge of the support networks of rural older adults in Canada. Currently little is known about which potential supporters come forward and provide support, with the exception of being fewer in number and more homogeneous in characteristics than social network members. A comparison between the characteristics of social and support network members can provide further information on the identity of the people likely to actualize their support potential. Little is also known about the variation in rural older adults' support network types and which seniors are likely to have each type. This is important because characteristics of family and friends within each support network influence the tasks and services received from networks. Knowing which older adults have each support network type helps to identify older adults who are well supported and those who are at risk for not receiving the support they need in their day-to-day lives.

Variation in Tasks and Services Received from Support Networks

In chapter two it was argued that social support is actualized when tasks are received from or provided to network members. In this section there is a review of what is known about variation in the types of tasks and services that older adults receive. Then there is consideration of how support network types may influence variation in the tasks that are actualized. This is accomplished by reviewing what is known about how support network composition may influence the types of tasks and services received and their variety.

Types of Tasks Received

In rural Canada, there is variation in the types of tasks that are received by older adults. For example, of 1,322 rural Canadian seniors surveyed, 56% reported they were checked up on by a family member or friend, whereas 19% reported receiving assistance with transportation to medical appointments and 6% reported receiving help making arrangements such as obtaining information,

making appointments, and negotiating the provision of services (Dobbs et al., 2004).

The variation in the receipt of tasks may be associated with the personal characteristics and needs of rural seniors. It is possible that older adults who did not receive specific tasks did not yet need them. These individuals may have potential supporters in their social networks, available to provide the task when needed. However, it is also possible that variation in the tasks received reflects differences in the ability of support network members to provide support. Indeed, in a survey of older people in rural Britain, transportation was noted as a crucial type of support, needed for accessing shops, banks, and post offices. Access to this type of support was found to be dependent on the availability of a car, a family member with the ability to assist, and the willingness of the older person to accept rides (Manthorpe et al., 2004). Clearly, support network membership is crucial in determining the types of support that are available, as individuals with driver's licences and vehicles are necessary for the receipt of transportation support. The influence of support network characteristics on the social support that is actualized is reviewed in the following section.

Influence of Support Network Characteristics

It has been thought that characteristics of support networks can influence the types of support received. Dobbs and colleagues (2004) examined how the number of people in the support network, their relationship, proximity, mix of women and men, and age may influence the types of tasks received; contributing to our understanding of the variation in the actualization of social support. Some of the results from this Canadian rural study are reviewed in subsequent sections, along with additional research that can add to our understanding of how support network composition is related to tasks that are received.

Network Size

There is little direct evidence that "bigger is better" for the receipt of tasks and services in rural Canada. However there is evidence from other countries

that larger support networks may be associated with an increase in tasks and services received. Litwin and Landau (2000) identified four support network types of older adults aged 75 and older living in Tel Aviv. They investigated older adults' receipt of seven types of support, including tasks such as practical assistance, financial aid and emotional support. They found that the highest average support score was associated with "diffuse-ties" networks which were the largest in size, whereas "family-intensive" networks, which were the smallest, had the lowest average support score. This provides some evidence that larger support networks contribute to the receipt of a higher number of tasks and services.

Other studies suggest the link between the receipt of support and network size may not be straightforward. In a study of the support network types of older adults in Berlin, Fiori and colleagues (2007) identified six support network types. "Diverse-supported" networks were the largest in size, with seniors with these networks receiving average levels of instrumental support and above average levels of emotional support. "Restricted-nonfamily-unsupported" types were the smallest in size, with seniors receiving below average levels of emotional support and almost average amounts of instrumental support (Fiori et al., 2007). These findings suggest support network size may be more relevant to the receipt of emotional support than instrumental support, with individuals with larger networks receiving higher amounts of emotional support. Additional evidence for this association comes from a study investigating older adults' experience of loneliness over a seven year period. Dykstra and colleagues (2005) found that, over time, older adults who experienced a reduction in the size of their networks experienced an increase in loneliness, whereas those who expanded their networks had a reduction in loneliness. Although this study did not directly research emotional support, findings suggest a likely link between support network size and the receipt of emotional support. Further research is needed into whether the number of tasks received varies with the size of support networks in rural Canada.

Relationship Composition

The types of tasks received may be highly concentrated among certain relationships. For example, Phillipson et al., (2000) divided relationships into immediate family, other relatives, friends, and others. Out of 627 older adults in their study, no one drew upon all four categories of relationships for the tasks they received. For each of the 8 types of tasks examined, including tasks such as helping with household chores, giving financial help, providing advice, over two-thirds of respondents identified only one category of relationship to whom they turned. The authors conclude that "the help available to older people is, then, highly focused" (p. 122).

There is strong evidence that types of tasks and services received vary among different relationships. Close kin, including spouses and children, are expected to provide the majority of emotional, informational and instrumental tasks (Wenger, 1997). Spouses are a unique relationship type, as despite being the most frequent source of help, assistance from spouses is not always recognized as support. Drawing on surveys and interviews with older people, Phillipson and colleagues (2000) found that spouses were often taken for granted, as some tasks such as financial assistance were just assumed to be provided by a spouse, and were therefore not explicitly mentioned.

Types of support received from children are similar to tasks received from a spouse, but are mediated by a number of factors. In a recent study from The Netherlands it was found that the support provided to older parents was influenced by having few siblings, a widowed parent without a new partner, and having short distances between the children and parents' houses (Stuifbergen et al., 2008). In the first two circumstances there was an increase in support provided by adult children, which included housework, performing odd jobs, giving advice and showing an interest in the other person's life. Furthermore, living in close proximity increased the provision of instrumental tasks to older parents. Therefore although spouses and children are most frequently turned to for emotional, informational and instrumental support, the support they provide can vary depending on the availability of other relationships.

In their empirical work, Broese van Groenou and van Tilburg (1997) identify partners and children as leading providers of emotional and instrumental tasks yet also stress the importance of siblings and neighbours when partners and children are absent. A review of the European literature suggests that neighbours monitor the older adult, provide some instrumental help and assist in an emergency (Wenger, 1997). Older adults vary in the number of friends they have (Ajrouch, Blandon, Antonucci, 2005), and in the tasks they receive from them, as there are few normative obligations for friends to provide assistance (Peek and Lin, 1999). Yet, findings suggest that friends may be particularly important for emotional support. For example, a study on social networks in urban areas found that 59% of older people included at least one friend in their circle of close network members, with 21% confiding in at least one friend (Phillipson et al., 2000).

It would seem from the non-rural literature that the proportion of family members, friends and neighbours in the support network predict the types of tasks and services older adults receive. However, the association between relationships and tasks received may vary somewhat in rural areas. Rural research from New Zealand has found that non-kin may step in to provide needed assistance when relatives are at a distance (Keeling, 2001). This suggests that relationship composition of support networks may matter less for the support actualized in rural contexts. Alternatively, there is evidence that relationships in rural areas do not significantly influence types of tasks expected, but they do influence the amount of assistance expected (Powers & Kivett, 1992). Having a higher proportion of close family members (i.e. spouse and children) in support networks results in the receipt of a higher number of tasks. Further research is needed to understand how relationship compositions of rural support networks may (or may not) influence the number and types of tasks received.

Proximity Composition

Many rural communities in Canada are relatively isolated from service centres, making proximity to supporters a relevant issue. Proximity to family and

friends may be particularly significant for the receipt of tasks and services. Rural seniors may receive assistance with instrumental tasks such as housework when they have children living nearby, or network members that can travel to the senior's home periodically to help with this type of task. Rural research from China shows that household assistance is particularly important for older adults. This study investigated older adults' receipt of four types of support (financial assistance, personal care, household assistance and emotional support) and found that the quality of household assistance and emotional support is greater when supporters live in close proximity to the older person (Zhang et al., 2005). Little is known about how proximity of network members may influence the tasks and services received in rural Canada, although literature documenting the migration of younger people out of rural areas warns of the consequent reduction in potential for such "high quality" support (i.e. Joseph & Cloutier-Fisher, 2005).

Non-rural studies provide further evidence of how proximity may predict the number and types of tasks exchanged. Researchers who interviewed older adults in Sweden observed "that the geographical distance between an older person and their family affected how often they met and how much help was given" (Duner & Nordstrom, 2007, 73). Details on how proximity may influence the types of tasks received are found in other studies as well. Baranowski and Schilmoeller (1999) found that whether assistance was provided by grandparents to families with disabled children depended in part on distance of the grandparent. However, this applied more to instrumental tasks as with technology emotional tasks can be provided irrespective of distance. This is supported by an additional study on support given to older parents that found for exchanges of non-instrumental tasks, such as giving advice or showing an interest in another person's life, the influence of proximity was minimal (Stuifbergen et al., 2008).

These findings suggest that older adults who have a higher proportion of proximate support network members are more likely to receive instrumental tasks from them, although emotional tasks are not influenced by distance. These findings may or may not apply to rural seniors, as it is possible that instrumental support may be provided from a distance more often than in urban contexts. Further research is needed on how proximity of network members might

influence the types and variety of tasks and services received by rural Canadian seniors.

Gender Composition

Previous support network typologies (i.e. Fiori et al., 2006; Litwin, 2001; Wenger, 1996) highlight variation among older adults in the size, relationship and proximity of their support network members. They do not inform on differences in gender compositions of support networks. This is significant as prior research has revealed strong associations between the gender of support network members and the receipt of specific types of tasks and services.

Gender composition of support networks was the strongest predictor of tasks received in the Dobbs and colleagues' rural seniors survey. Individuals with female only networks were more likely to receive help with housework, and less likely to receive transportation support and assistance with household arrangements, than those who had male only or mixed gender networks (Dobbs et al., 2004). These findings are congruent with those found in non-rural studies. In their interviews with urban seniors in the UK, Phillipson et al. (2000) found that the gender of network members was important for types of tasks received. Daughters were particularly significant in providing assistance to older parents, particularly of the emotional kind. This is endorsed by previous research which found in general, men provide more instrumental assistance whereas women provide more emotional support (Wenger, 1997). Yet, if specific tasks are considered, some instrumental tasks are provided more often by women. Women are more likely to help with housekeeping, whereas males are more likely to help others by doing outdoor work, home maintenance and repair (Fast et al, 2004). Thus, support networks that include a higher proportion of men may be more likely to provide help with outdoor work, but may provide little assistance with housekeeping. Seniors most likely to receive the full range of instrumental, informational and emotional tasks might be those who have relatively equal proportions of males and females in their support networks.

Women are often regarded as the main providers of emotional and housework support in families. Despite the breadth of gendered research, there are still unanswered questions. For example, women may be more likely to provide assistance with housework, but do they provide a greater number of tasks as compared to men? Or, do men and women provide a comparable number of tasks, but just different types? Further research into the relationship between the gender of support network members and the number of tasks and services received is needed. It would also be useful to determine whether members of small, single gender support networks behave the same as members of large, gender mixed networks. Perhaps when there is no one else available to provide support, the gendered nature of tasks is reduced.

Age Composition

Less is known about how age composition of support networks may influence the actualization of support. Dobbs et al., (2004) found that older rural adults who had support networks that were entirely middle aged were more likely to receive emotional support than those who had networks that were all younger, all older or mixed ages. Further questions arise from these findings such as what tasks are received from older friends and family members? What tasks are received from younger friends and family members? Do the number of tasks and services received vary depending on the age of network members?

Research based in urban settings has found that older age tends to be associated with having an older social network (Ajrouch, Blandon, Antonucci, 2005). This suggests potential supporters are older, but it is not clear if this also translates into having an older support network. Further research is needed to describe variation in the age composition of rural seniors' support networks and how this may influence the actualization of social support.

What are the Gaps?

A review of the literature suggests that support network size, gender composition, proximity composition and age composition have some influence on

the types of tasks and services received. Despite this knowledge, little remains known about how overall support network composition may influence the variety of tasks and services received. To better understand support received from networks, and how this varies among rural seniors, it is necessary to explore how support network types are related to the tasks and services received and their variety.

Variation in Exchange Patterns

Social exchange theorists would argue that in cases where individuals receive more support than they provide or where they provide more support than they receive, relationships may be discontinued. This is because humans strive for fairness, where they receive and give equal amounts of support (Sabatelli & Shehan, 1993). Exchanges where more support is provided than received have also been associated with high levels of life satisfaction and well-being, suggesting that these exchange patterns are also likely to continue (Liang et al., 2001; Lowenstein et al., 2007). To date, there has been limited empirical research on the exchange patterns of older adults in rural communities. Without this knowledge it is difficult to speculate whether rural older adults are involved in sustainable exchanges, or whether their supportive exchanges are at risk of discontinuing. It is possible that some exchange patterns, such as when an individual is not reciprocating, are difficult to maintain over time.

This section begins with a review of empirical research on exchange patterns of older people and their connection to future support and well-being. As few studies were found, questions are raised as to how balances are measured. Background characteristics of older adults are then reviewed, including how variation in individual characteristics and social network characteristics may be associated with exchange patterns.

Exchange Patterns and Continuity

The link between exchange patterns and the receipt of future support is theoretical in nature. In the empirical literature there is some research backing

the argument that 1) reciprocal exchanges are more likely to continue over time, and 2) reciprocal exchanges are related to greater well-being.

First, there is some evidence that reciprocal exchanges are likely to continue. Liang and colleagues (2001) found through a US national sample of older adults that providing and receiving support is highly correlated. In their words “giving and receiving assistance tend to reinforce each other” (p. 518). That is, the more support older adults provide to other people, the more they receive in return. In this study, support measures were non-source specific, meaning support could be received from or given to family, friends or neighbours. Exchanges of three types of support were considered: instrumental; informational; and emotional support. Only exchanges occurring over the past year were included in evaluations of exchanges. What is learned from this study is that providing support to others attracts the receipt of support, thus providing some evidence that exchanges which are reciprocal are likely to continue.

Secondly, there is some evidence from the rural literature that balanced exchanges relate to greater well-being. In a study of rural Korean elderly it was found that, overall, seniors who exchanged support frequently, by both providing and receiving tasks, had the highest quality of life (Kim et al., 2000). These findings have also appeared in the Korean elderly population, with another study finding that “in contrast to the elderly who only receive, the elderly who both give and receive are more satisfied with life; while the elderly, who only give or the elderly, who do not exchange any support…are less satisfied” (Kim & Kim, 2003, 437). These studies show congruence with assumptions from exchange theory. Like many studies on reciprocity, these Korean studies compared individuals who exchanged support with those who only received or only provided support. Nuances that exist in the exchange patterns of individuals who participate in exchanges were not examined. For example, it is likely that some individuals receive and provide high amounts of support, while others receive and provide few. Questions remain as to whether both of these exchange patterns relate to high life satisfaction, or whether some individuals with low balanced exchanges are in need of more support.

A small body of work has explored other aspects of the relation between well-being and exchange patterns. Lowenstein and colleagues (2007) explored the association between exchanges between older parents and children and life satisfaction. They identified five exchange patterns:

> "parents who received more help than they provided were categorized as "over-benefited", parents who provided more help than they received were categorized as "under-benefited", and parents who provided as much help as they received were categorized as "balanced"...[those who were balanced] were differentiated into low, medium, and high exchange categories."(p. 872).

These researchers found that older adults who were under-benefited had the highest levels of life satisfaction whereas those who were over-benefited had the lowest levels of life satisfaction (Lowenstein et al., 2007). These findings suggest that exchange patterns add a relevant dimension to understanding the link between exchanges and well-being.

Empirical research exploring detailed exchange patterns is limited. This might reflect the difficulty in measuring balance in exchange relationships. Exchanges occur over a lifetime and this is difficult to capture in cross-sectional and longitudinal research studies which reflect exchanges over a limited period of time (i.e. Liang et al., 2001; Perren et al., 2004). A variety of tasks and factors can contribute to balance, and it is difficult to investigate them simultaneously in empirical research (i.e. Klein Ikkink & van Tilburg, 1999). Information on exchanges is commonly collected from the perspective of one individual, who may over or under-estimate the number of tasks they provide and/or receive from another person (Ha et al., 2006).

Due to the difficulty in identifying various balances, there is little direct empirical evidence identifying the characteristics of older adults who have each exchange pattern. Characteristics help to identify which older adults have exchanges that are likely to attract support, and which may be at risk for receiving limited support in the future. Literature on intergenerational exchanges,

reciprocity in friendships, and social participation can provide some clues to which personal characteristics and social network characteristics may influence exchange patterns. What is known about how these characteristics are associated with various exchange patterns is reviewed in the following sections.

Background Characteristics and Exchange Patterns

There has been limited research done on the balance of exchanges over the life course in rural Canada. However, data from the 1990 Canadian General Social Survey suggests that age, gender, social class, health status and availability of social relationships are important in predicting the balance of instrumental exchanges with people living outside the household (Hirdes & Strain, 1995). By extension, background characteristics might also be useful in distinguishing rural older adults who have various balances of instrumental, informational and emotional tasks. This section considers how age, gender, marital status, education, income, health, and time lived in the community may be associated with various exchange patterns.

Age

Gerontologists who have drawn on the exchange approach have suggested that exchange patterns have a curvilinear relationship with age. In early work on this topic, Dowd (1975) argued that young children and older adults likely receive more support than they provide, whereas middle-aged adults likely provide more support than they receive. Twenty years later, empirical work has supported Dowd's argument, finding that adults over the age of 65 are more likely to be 'net receivers' of social support, compared to younger cohorts of adults (Hirdes & Strain, 1995). Considering the link found between life satisfaction and the balance of giving and receiving (i.e. Kim et al., 2000; Kim & Kim, 2003) this raises questions about the quality of life of older adults.

Recently, empirical studies have examined differences among older adults in their receipt and provision of support. In a longitudinal study of older adults, Shaw and colleagues (2007) found that as people age they tend to

provide less emotional, instrumental and informational support, while receiving progressively more instrumental and informational support. In a cross-sectional study of older adults across five countries Lowenstein and colleagues (2007) observed “the emerging pattern in instrumental support was that help flows upward toward the older generation, whereas financial support flows downward toward the younger generation” (p.879). Thus, data from cross-sectional and longitudinal studies seem to agree that older seniors are likely to have exchanges where they receive high numbers of instrumental tasks and services while providing relatively few. However, there are also indications that they are likely to provide help, such as financial support, to reciprocate for instrumental tasks received.

Despite these findings, there is some contrary evidence that suggests that the receipt of support may not always increase with age. In a UK survey focused on exchanges with neighbours, Perren and colleagues (2004) found that when controlling for health and other resources, those aged 80 and older were no more likely to have received a favour from a neighbour than younger seniors. They were also less likely to give favours. As observed by the authors, it is possible that older seniors are asked for favours less often than adults in their sixties and seventies, which may exclude them from receiving support from neighbours. As this study focused solely on relationships with neighbours, it is unclear whether this reluctance to ask older seniors for support may also apply to other relationship types.

Gender

There has been little research conducted on how gender may influence the balance of exchanges of support. However, there has been ample research conducted on the differences between men and women in who they turn to for support exchanges. Women tend to exchange tasks with family members and friends, whereas men tend to exchange tasks with family members only (Clark, 2007; Kim et al., 2000; Wenger et al., 2000). This is because older women generally develop lifelong friendships that continue into old age, increasing the scope of their exchanges (Barker et al., 1998). Older women tend to be the kin

keepers in families (Connidis, 2001), and are more likely to have closer ties to children, particularly adult daughters (Barker et al., 1998), and more active ties with siblings, increasing the instrumental tasks they exchange with them (Campbell et al., 1999; Grundy, 2005).

There is evidence that women's more extensive exchanges reflect gender differences in preferences for social support. A study of rural older adults found that family support enhanced positive affect for men, whereas support from family and friends enhanced positive affect for women (Hicks Patrick et al., 2001). These findings suggest that with the out-migration of younger family members, rural single older men may be at risk for receiving limited support.

Although not rural, there is additional evidence that compared to women, men are more likely to have and be content with a low balanced exchange pattern. Shaw and colleagues (2007) found that older men receive and provide fewer tasks than older women, but men are also more satisfied with their social support. These findings suggest that women and men may experience low balanced exchanges differently, as women may have expectations of higher or different exchanges and therefore may be less satisfied with a low exchange pattern. Further research is needed to understand how the sustainability of low balanced exchanges may differ between men and women.

Marital Status

Marital status may provide additional information on exchange patterns. Higher levels of exchanges might result from having a spouse, and thus having the opportunity to exchange support with them. Although social support exchanged with spouses is not always acknowledged by participants (Dobbs et al., 2004; Kim et al., 2000), or included in social support research (i.e. van Tilburg & Broese van Groenou, 2002), these tasks can contribute greatly to the amount of social support that is provided and received as spouses exchange a variety of emotional and instrumental tasks with their partners (Phillipson et al., 2000; Spitze, 1999; Wenger, 1997). Indeed "it is sometimes said that the existence of a

spouse is like ‘oxygen in the air,’ which means it is too natural for one to recognize the importance of its existence until one loses it”(Kim et al., 2000, 343).

In contrast to married seniors, widows and widowers may be more likely to receive higher numbers of tasks than they provide, although the imbalance of exchanges may be temporary. For example, Ha et al. (2006) examined the give and take between older widowed parents and their children, from the perspective of the parent. They found that in circumstances where a parent has lost their spouse, their children may no longer ask for as many resources and may provide more. This suggests that during periods of significant change or distress, rules of exchange may be suspended. Indeed, drawing upon a 10 year longitudinal study of older adults, Guiaux et al. (2007) found that instrumental tasks received increase with the loss of a spouse, and continues until about 2.5 years after widowhood, where exchange levels return to pre-loss levels.

These findings suggest that unbalanced exchanges can attract future support in some circumstances. Where spouses are present, and both are healthy, the balance of exchanges may be a normal part of day-to-day life. For older widowed adults, unbalanced exchanges may occur. Findings from longitudinal research are that in these situations, relationships may be maintained and returned to a balanced state once the crisis is controlled. These findings highlight the challenges of cross-sectional research, which cannot fully inform whether an imbalance is temporary or long-standing.

Education

It is not known whether educational background has an influence on exchange patterns in rural communities. However, it does seem to be important in predicting whether tasks are provided and received in non-rural settings. Higher education is associated with increased contact with friends and neighbours (Reinhardt et al., 2003; Zunzunegui et al., 2004), and with tasks provided to them (Hirdes & Strain, 1995; Shaw et al., 2007). For example, Shaw and colleagues (2007) found that seniors with more education provided more

instrumental, informational and emotional tasks to family and friends compared with less educated peers.

Education also impacts the types of tasks that are received. Ha et al. (2006) found that higher education was associated with a decrease in widows' reliance on children for financial and legal advice, thereby decreasing the receipt of these types of informational tasks. There is also evidence that individuals with more education receive fewer instrumental tasks than those who are less educated (Shaw et al., 2007). This relationship was not found with emotional support, suggesting support received is intricately connected to needs for specific tasks.

From these findings it would seem that older adults with higher education provide more tasks to family and friends, and receive fewer tasks in return. This may result from having the skills and abilities to provide tasks and services, along with fewer needs for particular tasks to be received in return. Unbalanced exchange patterns may or may not be sustainable depending on whether tasks are provided because of altruism, to bank support for future reciprocation, to repay past support received, or out of obligation. Alternatively, this imbalance may be apparent due to the selection of the types of tasks investigated, as fewer differences are present among individuals with different education levels when receipt of emotional support is considered. Further research is needed to explore how higher education is associated with balance of instrumental, informational, and emotional exchanges.

Income

Drawing on national data to investigate instrumental exchanges with individuals outside the household, Hirdes and Strain (1995) found that adults with higher incomes were more likely to be net providers of instrumental support compared to those with lower incomes. Perren et al. (2004) found in a UK survey that home and car ownership increased the likelihood of older adults receiving a favour from a neighbour and providing a favour to a neighbour. Types of favours were not specified, and it is unclear from this survey the extent to which

exchanges are balanced. Findings are indicative of the importance of income in influencing the ability of seniors to provide specific tasks. Phillipson et al. (2000) found that seniors in poorer urban areas provide less transportation to others and less financial help. The authors surmise that this is because these seniors are less likely to have a car and money to provide these types of tasks. Emotional support can be provided free of charge, whereas other types of tasks such as transportation support, require that a car be owned and gas purchased. Older adults with higher income might be in a better position to provide certain instrumental tasks to others, and to receive these tasks in return. Little is known about whether older adults with higher incomes are net providers when emotional tasks are also considered. It is also unclear to what extent the relationship between higher income and the provision of instrumental support is affected by retirement, which is associated with lower income.

Researchers investigating exchanges between older parents and their children have found that parents with a higher income may provide more tasks and services to their children than they receive. In a study of older widows and widowers, a positive association was found between parents' economic resources and children's dependence on them for support (Ha et al., 2006). In addition, a quantitative study of older parents found that those with a high income were less likely to receive help from a child (Grundy, 2005). The imbalance of exchanges likely results from parents having the income to help their children and also to purchase services they require. It can be speculated that unbalanced exchange patterns that occur when older adults provide more support than they receive because they have the financial resources to do so, may be satisfying to the older parent. However, further research is needed to directly explore whether older adults in this situation are satisfied to continue being net providers.

Health

Most of what is known about how health may influence the balance of exchanges comes from urban and national studies. Overall, these studies suggest that long-term health problems or disabilities may influence the balance of tasks received and provided. In a study involving widowed older adults, it was

found that the health of the older parent influenced their level of dependence on children and the assistance they received from them (Ha et al., 2006). Additional studies also support the idea that children are responsive to the needs of their parents. A British longitudinal study of older parents found that those who were older in age or had a disability were more likely to receive help from a child (Grundy, 2005). These two papers concluded that older people with health problems are more likely to be net receivers of tasks and services. They also suggest that these individuals receive more support from their networks because they have greater health-related needs.

These papers did not investigate the motivation for offering support. It is not clear from these studies whether support is being provided for altruistic reasons, filial obligation, or whether it is because of lifetime reciprocity. The reason is important because older adults who are being paid back for previous assistance may have a greater sense of well-being, and be content with continuing this exchange pattern, whereas older adults who are receiving without being able to reciprocate may feel indebted. Further research into why older parents are receiving support is needed to speculate about the sustainability of this ‘high receipt low provision’ exchange pattern.

Health is also significant to the provision of tasks and services. In a literature review on grandparent involvement in families with disabled children, Mitchell (2007) found that grandparents in better health were more likely to provide assistance to their children and grandchildren. In addition, good health has been associated with being a net giver of instrumental tasks to individuals living outside the household (Hirdes & Strain, 1995). The association between good health and being a provider of support has also been noted in the social capital literature. It is argued that “poor health may limit the capacity to reciprocate, which in turn may mean attracting less help” (Gray, 2009, 13). From this perspective, older adults in good health may receive more support than frail seniors because they are in a better position to reciprocate.

Together, these findings suggest that the balance of exchanges may depend on the health of the older adult: those in better health likely exchange

more tasks, and individuals who are in poorer health may receive more tasks from others than they give back.

Length of Time in the Community

Some rural seniors have lived in their community all of their lives, whereas in the case of retirement communities, older adults might be relatively new to the community. Length of time an individual has lived in their community may be associated with different connections to potential supporters and exchanges of support. It takes time to make friends and to develop the level of trust with neighbours that would allow the giving and receiving of social support.

Given the importance of social support to rural seniors and the value of proximity to the recipient of support, it is surprising that so little research has examined the influence of time spent in the community on the support network. Only one study was found that focused on this potentially important contributor to social support. Perren and colleagues (2004) studied a mix of urban and rural seniors in the UK and found that, although time in the community did not influence contact with neighbours, it did influence the give and take of support. They found that individuals who were new to the community were less likely to receive support from and provide support to their neighbours than those who had lived in their home for over five years. These findings suggest that rural seniors who are new to a community may be at risk for limited access to support from neighbours. This limited access might not matter if the senior has friends and family nearby, but it might negatively affect those who have moved to a retirement community that is at a distance from their children.

The theoretical literature suggests that balanced exchanges with non-kin are important for attracting future support. The research by Perren and colleagues (2004) only considered whether favours were received or provided; it did not consider the balance of exchanges. Further research is needed to examine the extent to which time spent in the community predicts exchange patterns in order to speculate the future availability of support for rural Canadian seniors.

Social Network Characteristics and Exchange Patterns

Findings from previous Canadian studies illustrate that availability of specific social relationships can influence the balance of instrumental exchanges. For example Hirdes and Strain (1995) found that individuals who had more siblings in their social networks were more likely to be net providers of instrumental tasks. However, less is known about how social network size and characteristics of potential supporters, such as their age and gender, may influence the balance among instrumental, informational, and emotional tasks given and received. This balance is important because it takes into consideration the various strengths and abilities of individuals to provide tasks and maintain balance in their relationships.

In this section there is a review of the research literature on characteristics of social network members and how these may influence exchange patterns. Social networks are reviewed because, although tasks are received from support network members, the social network is composed of potential support network members - the people who may be recruited into the support network as the need arises. It is important to review the literature on characteristics of the social network that have been established as relevant for the giving and/or receiving of social support as these characteristics may influence whether or not social network members may be recruited into the support network, influencing the occurrence of future support. Social network characteristics that are reviewed include social network size, and the relationship, proximity, age and gender of social network members.

Social Network Size

It is unclear whether large social networks are more likely to attract future support than small networks. If balance is examined, there is evidence that not all social network members reciprocate the tasks they are provided. It was found in longitudinal research that the larger the social network, the more likely there were unbalanced exchange relationships which were discontinued (Klein Ikkink & van

Tilburg, 1999). Despite the greater likelihood of having unbalanced exchanges, older adults with large networks may perceive that future support is available. This is because they have the potential for recruiting more people into the support network if or when the need arises.

Unbalanced exchanges might be more detrimental for individuals with small social networks. These seniors may not be able to afford to lose any of their potential supporters and may therefore work harder at balancing their exchanges or providing tasks and services to others to help recruit them into their support networks. Indeed, longitudinal research has shown that imbalance from unreciprocated giving is not likely to endure in small networks (Klein Ikkink & van Tilburg, 1998). Alternatively, a study on the impact of physical and cognitive decline on social networks of older people challenges this finding. Aartsen and colleagues (2004) found that members of a small network were more willing to supply support than members with a large network. The authors explain this by stating that members of small networks may be more inclined to give support despite balance. Members of large networks may be more focused on minimizing investments in relationships and maximizing profits.

In sum, larger social networks may have unbalanced exchange patterns, but these may be sustainable as there are a variety of people available to call on for support, if and when it is needed. On the other hand, small networks may either be dependent on balanced exchanges to retain social network members, or may continue despite the older person over-benefiting from exchanges. Further research is needed on how size of social networks may influence older adults' exchange patterns in rural communities.

Relationship Composition

Approximately 97% of Canadian rural seniors have a mix of relationships in their social networks, suggesting both family members and non-kin are sources of potential support (Dobbs et al., 2004). Relationships are an important indicator of exchange patterns because the relationship composition of social networks may predict whether an older adult needs to provide tasks to receive

them. Although little was found in the rural literature, sources from various geographic locations, using a variety of methods, suggest that networks composed of predominantly close family members may operate differently than those composed of friends and neighbours.

In a qualitative study of older women, it was found that reasons for exchanging assistance are differentiated by relationship type. Neighbours provide assistance often as a result of fixing a problem, friends share regular patterns of mutually caring routines, and family exchanges are based on reciprocity built over a lifetime (Boneham & Sixsmith, 2006). In the latter case, reciprocating tasks received from family may be less relevant in later life as family members may be providing tasks to the older adult as a result of long-term reciprocity. Indeed, a longitudinal quantitative study of older adults in the Netherlands found that close kin relationships were most likely to continue in unbalanced relationships, whereas relationships with more distant kin, friends, and neighbours had a higher chance of being stopped if exchanges were not balanced (Klein Ikkink & van Tilburg, 1998). This may relate to expectations, as a study of older women's friendships found that maintaining balance and reciprocity is an expectation of friendships (Moremen, 2008). A study of older Americans reinforces this point, with evidence that associations between balance and well-being are not consistent across relationship types. The author found that reciprocating assistance is more important with friends and neighbours than with family members (Stoller, 1985). However, this cross-sectional study only asked about current exchanges, thus long-term reciprocity with family is not captured in this study.

The consistency of findings across geographic settings and methods suggest relationships matter in determining whether unbalanced exchanges are likely to continue. If exchanges are unbalanced, and networks are mainly composed of friends, the potential for future exchanges is reduced. If exchanges are unbalanced and the network is mainly composed of close family members, supportive relationships are more likely to continue. Despite representation from three different geographic settings, it is still not known whether these

associations exist in rural areas, or how social networks composed of mixed relationships may influence the availability of future support.

Proximity Composition

One of the social support related concerns for rural seniors is that their family and friends may live at a distance. Proximity of actual supporters is important for types of tasks received (Stuifbergen et al., 2008), but little is known about how proximity may influence the balance of exchanges. It is possible that balances can be maintained across distances through the exchange of different types of tasks. Indeed, families may be characterized by “intimacy at a distance”, remaining in contact and exchanging services (Litwak, 1985). For example, when a child visits his or her older parent, they may help with cleaning the house. Later, the older adult may provide their child with financial support, which may help balance and continue their supportive relationship. In these situations, proximity may influence the number of exchanges, and the time lag between receiving a task and reciprocating, but not necessarily the balance. Research is needed on whether social networks composed mainly of family and friends living at a distance are less likely balanced compared to networks that are locally based, or mixed.

Little is known about how proximity may influence the recruitment of potential supporters into the support network. Seniors may provide tasks to family and/or friends living at a distance. They may write letters, provide emotional support over the phone, or advise when needed. The provision of these types of tasks may increase the likelihood that tasks might be received from these social network members if needed in the future. Further research is needed on how proximity may influence the recruitment of potential supporters into the support network. Irrespective of distance, these potential supporters may make themselves available should a crisis arise.

Age and Gender Composition

Social network size, relationship composition and proximity composition provide some indication about the balance of exchanges, and the likelihood that social network members may be recruited into the support network when needed. However, they are not the only network characteristics that might matter. Little is known about whether age or gender of social network members influence exchange patterns. Do seniors with older social network members have more unbalanced relationships, providing the extra tasks that their network members need? Are these balances likely to continue, because they are providing tasks to people who have helped them in the past? Or, are older social networks an indicator of same-aged peers, suggesting that exchanges with older networks need to be reciprocal to be maintained? (i.e. Moremen, 2008). Questions are also raised about gender. Do social networks composed of a higher proportion of females have a greater likelihood that they will be recruited into support networks when tasks are needed? Dobbs and colleagues (2004) found that 20% of seniors had support networks comprised only of females whereas 13% had support networks comprised only of males. These proportions suggest that there may be differences in likelihood that males or females are recruited into support networks. Research is needed on how age and gender composition of social networks may be indicators of exchange patterns and future support.

What are the Gaps?

Most studies on reciprocity seem to explore *whether* tasks and services are exchanged, or *what* tasks are provided and received, rather than the *balance* of exchanges. This may result from the challenges of measuring balance. Yet, while studies on reciprocity can inform whether exchanges occur and on the direction of resource exchanges, these studies do not distinguish between high and low levels of exchanges, which add more depth to the study of day-to-day exchanges (i.e. Lowenstein et al., 2007). Specific patterns of exchanges are an important part of supportive relationships and their continuity, and are useful to explore.

Previous studies have not examined how background characteristics of older adults and social networks simultaneously influence exchange patterns. Therefore it is not known whether characteristics of the individual or characteristics of the social network are more predictive of exchange patterns. Perhaps age is most significant, with older people over-benefiting because of their increased needs. Or perhaps networks with large numbers of family members are more predictive of over-benefiting because of filial obligations. It would be helpful for policymakers and practitioners to know whether social network characteristics are stronger predictors of exchange patterns, or whether they should be focusing on identifying older adults with particular background characteristics. This project will address what background characteristics of older adults and their social networks are associated with various exchange patterns, and the relative strength of these associations.

Research Questions

To address variation in the social support resources of older adults in rural Canada, the following questions are explored:

1. **How does the potential for social support vary among older adults in rural Canada?**

    a) **What variations exist in the structure of social networks of rural older adults?**

Social support is dependent on having connections to family and friends who might be able to provide support. This question considers differences older adults have in their ties to family and friends and how the characteristics of older adults' potential supporters vary.

    b) **What personal characteristics are associated with each social network type?**

Some social networks may be large and heterogeneous, while others may be small and limited. It is important to identify seniors who have various social network types in order to distinguish which have greater or more limited social

support potential. This will help to target seniors who may need help connecting to people and services.

2. **How do networks of people who actualize potential support vary among older adults? How do support networks differ from social networks?**

    a) **What variations exist in the structure of support networks of rural older adults?**

This question considers how the characteristics of older adults' supporters (i.e. the people who actualize their support potential) vary. To begin to understand how the network of actual supporters differ from the network of potential supporters, social and support network types are compared.

    b) **What personal characteristics are associated with each support network type?**

This question helps to identify the characteristics of older adults who have different support network types. This is important for discerning which older adults have a variety of people they turn to for support, and which older adults rely on just one or two people, putting them at greater risk.

    c) **What is the relationship between the characteristics of social and support networks?**

There has been an argument made in the conceptual literature that social networks (i.e. the people who provide the potential for support) and support networks (i.e. the people who actualize support potential) are different. The structure of social and support networks are compared to provide further evidence for this distinction and to identify who is most likely to be recruited from the social network into the support network.

3. **What is the variation in the social support that is actualized?**

    a) **Does the number of tasks that are received differ by support network type? Do the types of tasks that are received differ by support network type?**

Previous research shows that characteristics of support network members influence the variety of tasks received (Dobbs et al., 2004; Wenger, 1997). This question builds on our understanding of variation in the actualization of social support by exploring how support network types relate to the number and types of tasks received. This is important because it informs how the combination of relationships in a network influence support received by rural seniors.

4. **What variation exists in the exchange patterns of rural older adults?**

There is a theoretical argument that the exchanges that are most likely to continue are those which are balanced. There is also the argument that exchanges which under-benefit older adults (i.e. more support is provided than received) are also likely to continue. This is because of 1) their association with life satisfaction and well-being and 2) the link between providing support and becoming integrated with potential supporters. Following these arguments the balance of tasks received and provided is used to speculate about the availability of future support.

    a) **What are the characteristics of individuals with each exchange pattern?**

For those who do participate in exchanges, there are four possible patterns that describe older adults' exchanges with their networks. These include: high receipt and provision of tasks; low receipt and provision of tasks; high receipt and low provision of tasks; low receipt and high provision of tasks. This question identifies characteristics of older adults that are associated with each exchange pattern. This provides a more nuanced understanding about which older adults may attract support and which may have more difficulties securing future support.

b) How is social network composition associated with exchange patterns?

It is currently not known whether characteristics of older adults or characteristics of their social network members are most relevant to exchange patterns. The purpose of this question is to identify which social network characteristics are associated with each exchange pattern to help discern the role of networks in the maintenance of supportive exchanges.

CHAPTER 4: METHODS

This chapter outlines the empirical approach that was taken to address the research questions. It includes descriptions of the data, sample, data analyses and procedures, ethical considerations and limitations.

Data

To understand variation in the social support resources of older adults who reside in Canadian rural communities, four main research questions were proposed:

1. How does the potential for social support vary among older adults in rural Canada?
2. How do networks of people who actualize potential support vary among older adults? How do support networks differ from social networks?
3. What is the variation in the social support that is actualized?
4. What variation exists in the exchange patterns of rural older adults?

Secondary data analysis was used to address these research questions.

The data used in this research are from a national telephone survey of rural seniors across Canada. The survey was of 1,322 rural Canadians aged 65 and older, who were asked about their social and service environments and how these contributed to views of their communities as good places to grow old. The survey instrument consisted of structured interview questions, with pre-coded response categories. The data were collected by trained interviewers from the Population Research Laboratory (PRL) at the University of Alberta using its centralized Computer-Assisted Telephone Interviewing (CATI) facilities. The main data collection phase was conducted in the spring of 2004 (from March 27, 2004 to May 1, 2004). The average length of the interview was 37.6 minutes. Response rate was 51.2% based on refusals, inability to contact respondent, and

language barriers. For a detailed description of the survey project see Dobbs et al. (2004).

The survey conducted by Dobbs and colleagues (2004) was a suitable source of data for this research project. This is because there were modules on respondents' social ties, support provided, support received, individual demographics and community characteristics.

Sample

The national sample included participants who had rural postal codes (second digit of postal code = 0) and were aged 65 or older. Participants were either members of the Royal Canadian Legion or a spouse of a Legion member. The survey was stratified by age and gender, and the sample was drawn based on percentages of rural seniors 65 years of age and older in the following regions: Atlantic Canada, Quebec, Ontario, Prairies, Alberta, and British Columbia. Regional percentages mirrored the older rural population from the 2001 Census (see Table 1).

Table 1: Sample distribution: Age, gender, and region (Dobbs et al., 2004, 16)

Region	Females		Males		Total
	65-74	75+	65-74	75+	
Atlantic Canada	85	70	77	52	284
Quebec	38	42	18	30	128
Ontario	115	120	103	83	421
Prairies	29	35	44	79	187
Alberta	40	31	52	53	176
British Columbia	30	27	31	38	126
Total	337	325	325	335	1322

This sample was advantageous for this research project for two main reasons. First, there is considerable variation among rural communities which may influence interaction patterns of community members (Williams & Cutchin, 2002). By drawing upon a large, geographically dispersed sample, it becomes possible to examine the variation in the social support resources among rural older adults living in diverse communities. This enables an overview of rural networks and avoids attributing findings from one area to all rural communities. Second, age and gender of older adults are likely associated with variation in their social support resources. As women tend to outlive men (Statistics Canada, 2007), less is known about the social and support networks of older men, especially those over age 75. Having access to a sample stratified by gender and age enables one to examine how these characteristics are associated with variation in social and support networks and exchanges of social support.

The sub-sample for this study comprises 1312 seniors (women= 657, men=655) who reported having at least one social network member. Social

network members included any named family member or close friend. The demographic characteristics of the sub-sample are presented in Table 2. Significance tests were not conducted between the characteristics of this sample and rural seniors in Canada, however comparisons can be made. The sub-sample was similar to rural seniors in Canada on a number of characteristics, such as level of education and employment status. However, the sub-sample was different in other ways as a result of the sampling strategy for the survey, and the profile of Legion members. First, there was a disproportionate number of people over age 75 as a result of oversampling this age group. Second, more women were married, an expected outcome given that the sample was of Legion members who are predominantly male and married. Third, the sample had a greater number of individuals with higher individual income than averages for Canadian rural seniors. This comparison suggests that while this sample is similar to rural seniors in general, there are some demographic differences that may influence the results. For example, married individuals may depend on their spouses for support, whereas single seniors may receive more tasks from siblings and friends (Broese van Groenou & van Tilburg, 1997). As married women are over-represented, the support network types identified may be slightly skewed toward the supportive connections of married seniors. In addition, higher income may influence the number and types of tasks received from family (Grundy, 2005). With fewer low income individuals in the sample, findings on tasks received may be somewhat skewed toward the experiences of middle-income seniors. Therefore results will be interpreted and discussed with the acknowledgement of these differences.

Table 2: Demographic characteristics of seniors living in rural communities

Demographic Characteristics	Legion Rural Seniors (n=1312)		GSS 2002 Rural Seniors[1]	
	Gender		Gender	
	Women (n=657) % (n)	Men (n=655) % (n)	Women %	Men %
Age				
65 – 74	51.0 (335)	49.3 (323)	56.8	62.7
75+	49.0 (322)	50.7 (332)	43.2	37.3
Marital status				
Married/common-law	80.1 (526)	75.0 (490)	50.2	79.3
Widowed/Separated/Divorced/Single	19.9 (131)	25.0 (163)	49.7	20.6
Highest level of formal education				
Elementary school or less	24.9 (163)	35.1 (227)	22.5	29.3
Secondary school	43.3 (283)	38.8 (251)	48.9	37.6
Post-secondary degree or higher	31.8 (208)	26.1 (169)	28.7	33.1
Income				
0 to $14,999	26.4 (117)	9.9 (55)	63.2	27.8
$15,000 to $29,999	39.3 (174)	36.5 (202)	25.8	40.4
$30,000 to $49,999	23.9 (106)	39.4 (218)	8.2	20.8
$50,000 and greater	10.4 (46)	14.3 (79)	2.7	11.0
Employment status				
Not employed/retired	96.5 (634)	92.2 (602)	96.6	88.1
Employed	3.5 (23)	7.8 (51)	3.4	11.9

Rural is defined in various ways, with two dimensions informing conceptualizations (Atkin, 2003; Keating & Phillips, 2008). First, rural is defined as a type of locality. Elements of this dimension include having a small population size, distance from larger service centres and low pop[1]ulation density. Second, rural is defined as a social construct, where rural is a set of attitudes, behaviours and beliefs. For example rural people have been described as living a slower pace of life, having more conservative attitudes, and being tightly knit with other local people. In this dissertation, rural is defined as a geographic locality that also has a socio-cultural dimension that differentiates it from urban locations.

As physical aspects of rural communities are objective, variations in physical characteristics of communities can be compared. Table 3 shows that, despite participants all living in localities with rural postal codes, variations exist in the population size of their communities, the proportion of seniors, and

[1] Results are from analysis of the 2002 General Social Survey (see Dobbs et al., 2004, 22). Income data from the GSS have 39% missing values. Results on income must be treated with caution.

distance from a larger urban centre. Information reported in this table is based on Statistics Canada's Census Subdivisions (CSD). Using Census data allows for more complete and accurate information. For example, when asked for the population size of their community, almost 10% of respondents did not know. Despite having more complete data, there are challenges to CSD data as some rural communities may be grouped with other communities or with larger urban areas. For example, despite having rural postal codes this table shows 13% of respondents live in large communities of 20,000 people or more. It is likely that many of these respondents live in communities of smaller sizes, but are grouped with other proximate communities.

Table 3: Community characteristics of seniors living in rural communities

Community Characteristic	Percent	N
Population Size[2]		
Up to 1,499	20.3	262
1,500-4,999	32.6	420
5,000-9,999	19.5	251
10,000-14,999	11.6	150
15,000-19,999	3.0	39
20,000 or more	13.0	168
Proportion of Seniors[3]		
0 – 9.9%	8.2	107
10-14.99%	33.5	436
15-19.99%	30.1	392
20-24.99%	16.5	215
25% or higher	11.7	152
MIZ (distance from an urban centre)[4]		
No MIZ	5.4	71
Weak MIZ	26.5	346
Moderate MIZ	33.5	438
Strong MIZ	15.2	199
CMA/CA	19.3	252

[2] Based on census subdivision size
[3] Based on census data
[4] No MIZ = no one in the community commutes to an urban centre for work or it is a community with less than 40 residents in the labour force; Weak MIZ = 0% to 5% commute to an urban centre for work; Moderate MIZ = 5% to 30% commute to an urban centre for work; Strong MIZ = 30% to 50% commute to an urban centre for work. Census Metropolitan Areas (CMA) and Census Agglomerations (CA) = Areas "consisting of one or more adjacent municipalities situated around a major urban core. To form a census metropolitan area, the urban core must have a population of at least 100,000. To form a census agglomeration, the urban core must have a population of at least 10,000." (Statistics Canada 2001 Canadian Census).

Data Analyses and Procedures

To address the four main research questions, several statistical procedures and analyses were used. These included cluster analyses, descriptive statistics, tests of significance, multinomial logistic regressions, and logistical regression. Colinearity diagnostics were run for all regressions to ensure there were no strong correlations among the predictor variables. If they were highly correlated, it would be difficult to determine which of the correlated variables was associated with the dependent variable. This section begins with an outline of the analytic approach that was used to address each of the research questions. Following the analytic approach, the data used to operationalize the variables are explained.

Analytic Approach for Addressing the Research Questions

This section outlines the analytic approach that was used to address each of the four main research questions. Sub-questions are listed and the analyses associated with each sub-question are described.

1a) What variations exist in the structure of social networks of rural older adults?

Information on social network members was collected in three sections of the survey: social ties (respondents named their family and friends); support provided (respondents named people to whom they provided specific tasks); and support received (respondents named people from whom they received specific tasks). For every person named (capped at 20 relatives and 15 friends), information was collected on gender, age, relationship and proximity to the respondent. For the social network analyses, these characteristics were computed into proportions to reflect the structure of the respondents' social networks. For example, if one female and three males were named, the respondent had a social network that was 25% female and 75% male.

Cluster analysis was used to develop a typology of social networks using SPSS. The goal of cluster analysis is to divide the sample into subgroups based on their similarities across a group of variables. There are different cluster analysis techniques available. Most are hierarchical. They can be divisive, beginning with all cases in one cluster which is gradually broken down into smaller and smaller clusters, or they can be agglomerative, which start with each observation being considered separate clusters which are gradually fused until there is one large cluster. Hierarchical clustering requires a matrix of distances between all pairs of cases, thus is difficult to use with large datasets. There is also a two-step clustering procedure. In the first step cases are assigned to 'preclusters', in the second step the preclusters are clustered using the hierarchical clustering algorithm. This procedure is useful if there are both categorical and continuous variables in the solutions. K-means cluster analysis is non-hierarchical. This means that the researcher supplies the number of clusters into which the data are to be grouped, and the final cluster membership appears in the output (Norusis, 2008). K-means cluster analysis was the technique chosen as it offers a good range of information to help interpret the results, the number of clusters can be pre-determined based on theory and past empirical studies, and it effectively handles large datasets. Thus, it was an appropriate clustering technique.

K-means cluster analysis was used to differentiate seniors' social networks into types by utilizing the structural characteristics of their social networks in the analysis (Keating & Dosman, in press). The following structural network characteristics were included in the cluster analysis: age composition (proportion of the social network under 45, 45-64 and over 65), gender composition (proportion of the social network who are male and female), relationship composition (proportion of the social network who are spouse, children, other family, friends/neighbours) proximity composition (proportion of the social network who are living in the same building, same community, outside the community), and network size (number of members of the social network). A monotonic transformation was used on variables such as network size which has a larger variance to avoid skewing the cluster analysis.

All 1,312 seniors had a social network and 1,309 had all the required information on their social network members to be included in the network analysis. Six solutions were run, representing two to seven clusters. As a result of the K-means cluster analysis, a five cluster solution was chosen as the best fit for the data. This is because the four cluster solution had four distinct clusters however it omitted the restricted network, which did not appear until the five cluster solution. The restricted network was important as it identified a distinct network type representing respondents with limited social support potential. The six cluster solution was useful as it made further distinctions between clusters, but in the process the n of the restricted network dropped to only 20 people. Overall, the five cluster solution contained the most distinctive information on subgroups while using the fewest number of clusters. It also had an adequate number of participants associated with each of the five subgroups. Once the five cluster solution was chosen, descriptive labels were applied to each social network type to describe its key characteristics.

1b) What personal characteristics of older adults are associated with each social network type?

There were two steps to this analysis. First, descriptive statistics were used to identify characteristics of older adults who had each social network type. Chi-square analyses were used to test for significant differences across the following variables: older adults' gender, marital status, age, education, perceived income, perceived health, and time in the community (see Table 6 for operationalization of the variables). Where significant associations were found, z-tests were used to determine which proportions were significantly different.

Second, a multinomial logistic regression was run to determine characteristics of older adults associated with social network types. The dependent variable was social network type; *Spouse focused* networks were chosen as the reference category. As the dependent variable was nominal and there were more than 2 categories, a multinomial logistic regression was an appropriate technique.

Independent variables entered into the regression included older adults' gender, marital status, age, education, perceived health and time in the community. Age and time in the community were entered as continuous variables, while gender, marital status, education and perceived health were categorical. Perceived income was excluded from the model as the descriptive analysis revealed little variation across social network types. This suggests it may matter little that this sample had a slightly higher average income than older rural Canadians in general. Only observations with complete information were used in the analysis. The final sample size for the regressions was 1286.

2a) What variations exist in the structure of support networks of rural older adults?

Information on support network members was collected in a module on support received. In this module, respondents named the people from whom they received specific tasks from over the previous month. For every person the respondent named, information was collected on their gender, age, relationship and proximity to the respondent. For the support network analyses, these characteristics were computed into proportions to reflect the structure of the respondents' support networks. For example, if the respondent received support from one female and one male, the respondent had a support network that was 50% female and 50% male.

Similar to the analysis of social networks, K-means cluster analysis was used to develop a typology of support networks. This procedure was used to differentiate seniors' support networks into types by utilizing the structural characteristics of their support networks in the analysis. The structural characteristics mirrored those used in the social network analysis. This decision was made so that comparisons could be made between social and support network types.

The following structural network characteristics were included in the cluster analysis: age composition (proportion of the support network under 45, 45-64 and over 65), gender composition (proportion of the support network who

are male and female), relationship composition (proportion of the support network who are spouse, children, other family, friends/neighbours) proximity composition (proportion of the support network who are living in the same building, same community, outside the community), and network size (number of members of the support network). A monotonic transformation was used on variables such as network size which has a larger variance to avoid skewing the cluster analysis.

In total 1,110 seniors had a support network (i.e. they reported receiving a task from at least one person) and 1,089 had all the required information on their network members to be included in the cluster analysis. Six solutions were run, representing two to seven clusters. A five cluster solution was chosen as the best fit for the data. This is because the four cluster solution revealed four distinct network types but differences in gender compositions were not revealed until the five cluster solution. Furthermore, the six cluster solution had two clusters that were difficult to distinguish from each other. The five cluster solution was chosen for support network types because it contained the most distinctive information on subgroups while using the fewest number of clusters. It also had an adequate number of participants associated with each of the five subgroups. Once the five cluster solution was chosen, descriptive labels were applied to each support network type to describe its key characteristics.

2b) What personal characteristics of older adults are associated with each support network type?

There were two steps to this analysis. First, descriptive statistics were used to identify characteristics of older adults who had each support network type. Significant differences were tested across background variables of older adults using chi-square tests (see Table 6 for a list of variables). Where significant associations were found, z-tests were used to determine which proportions were significantly different.

Second, a multinomial logistic regression was run to determine characteristics of older adults associated with support network types. The

dependent variable was support network type. *Spouse focused* networks were the reference category in the regression. As the dependent variable was nominal and there were more than 2 categories, a multinomial logistic regression was an appropriate technique.

Independent variables entered into the regression were older adults' gender, marital status, age, education, perceived income, perceived health, and time in the community. Age and time in the community were entered as continuous variables, whereas other background characteristics remained categorical. Only observations with complete information were used in the analysis. The final sample size for the regressions was 1060.

2c) What is the relationship between the characteristics of social and support networks?

Tests of significance were run to address this research question. The sample for these analyses were respondents who had both social and support networks (n=1110). Paired samples t-tests were used to compare their social and support network structures. This included network size, age composition (proportion under 45, 45-64, 65+), gender composition (proportion female, male), relationship composition (proportion spouse, children, other family, friends/neighbours), and proximity composition (proportion same building, same community, outside the community).

3a) Does the number of tasks that are received differ by support network type? Do the types of tasks that are received differ by support network type?

Thirteen tasks were asked about in the support received module (see Table 4). Descriptive statistics were run to determine the mean number of tasks received by support network type. An ANOVA was run to see if the mean number of tasks was significantly associated with support network type. Bonferroni post hoc tests were used to determine where there were significant differences.

Descriptive statistics were also run to find out the proportion of seniors who received each task by support network type. For this analysis, the 13 tasks were grouped into five categories (transportation, housework, emotional support, household arrangements, checking the house) based on previous factor analysis (see Dobbs et al., 2004). Chi-square tests were used to determine whether types of tasks were associated with support network type. Where significant associations were found, z-tests were used to determine which proportions were significantly different.

The descriptive statistics revealed that emotional support was the only type of task significantly associated with support network type. One logistic regression was run to explore whether support network type predicted the receipt of emotional support once background characteristics of the older adult were controlled for. The dependent variable in the regression was whether emotional support was received (yes/no). The independent variables included each of the support network types (which were dummy coded, and the *Spouse focused* network was dropped from the analysis) and the background characteristics of the older adult which included older adults' gender, marital status, age, education, perceived income, perceived health, and time in the community (see Table 6). Similar to the previous regressions, age and time in the community were run as continuous variables so that information would not be lost by categorizing them. All other background characteristics were dummy coded so that they were appropriate for the regression. Only observations with complete information were used in the analysis. The final sample size for the regression was 1060.

4a) What are the characteristics of individuals with each exchange pattern?

There were three steps to this analysis. First, individuals who did not receive or provide any tasks were identified. As a sufficient number of seniors was identified (n=41), a profile of this group was created to compare with the group of seniors who received and/or provided tasks (n=1271). Crosstabs and chi-square analyses were run across the following background characteristics: older adults' gender, marital status, age, education, perceived income, perceived

health, time in the community, and social network type. Where significant associations were found, z-tests were used to determine which proportions were significantly different.

Second, a taxonomy of exchange patterns was created for the remaining 1,271 seniors who received at least one task and/or provided at least one task. Receipt of tasks included a count of how many of the 13 tasks the participant received from their network over the past month. This variable was divided into low receipt of tasks and high receipt of tasks based on the mean and median number of tasks participants received. Provision of tasks included a count of how many of the 14 tasks the participant provided to family and friends over the past month. This variable was recoded into low provision of tasks and high provision of tasks based on the mean and median number of tasks participants provided. Drawing on these two variables, a taxonomy was then created identifying into which of the four exchange patterns each participant fell.

In the third step a profile was created for seniors who fell into each of the four exchange patterns in the taxonomy. Using chi-square tests, significant differences in the characteristics of seniors were tested for across the four categories of the taxonomy. Background characteristics of older adults included gender, marital status, age, education, perceived income, perceived health, length of time in the community, social network type and support network type**.** Where significant associations were found, z-tests were run to determine which proportions were significantly different.

4b) How is social network composition associated with exchange patterns?

A multinomial logistic regression was used to determine which characteristics of social networks would predict that an older adult falls in the *high receive high provide* pattern rather than another. The dependent variable was exchange patterns, with *high receive high provide* as the reference category. This pattern was chosen because it evidences active exchanges of tasks and is balanced, which is often assumed ideal.

The independent variables included social network size and the age, gender, relationship and proximity compositions of social networks, which were represented as proportions. To control for the personal characteristics of older adults their background characteristics were included in the regression (see Table 6). Perceived income was excluded from the model because the descriptive analysis revealed little variation across exchange patterns. Marital status was highly correlated with the proportion of spouses in social networks so was also taken out of the model. Only observations with complete information were used in the analysis. The final sample size for the regressions was 1249.

Operationalization of Variables

In this section, variables included in the analyses are reviewed. Data from the survey that were used to operationalize these variables are explained.

Social network members: In the rural seniors survey information was collected on social network members through the following two questions:

> K1) The next questions are about family members who may or may not live with you. Think about your spouse, children, step-children, children-in-law, brothers and sisters, and parents if they are still living. Do you have any of these family members?
>
> F1) I am now going to ask you questions about your CLOSE friends. By close friends, I mean people who are not your relatives, but who you feel at ease with or can talk to about what is on your mind, and who you talk with on a regular basis. Do you have any close friends?

If the respondent answered “yes” to these questions, information was collected on their family and friends, including their first name, relationship to the respondent, their gender, age, and proximity. If additional people were named in the subsequent modules on support provided or support received they were added to the roster of social network members to provide a complete list.

Types of tasks and services received: Instrumental, informational and emotional tasks that were considered in the analyses were limited to those that appeared in the survey instrument. Table 4 outlines the tasks and services that were asked about in the survey, and into which of five categories they were classified for the significance tests and logistic regression. Categorizations were based on previous factor analysis (Dobbs et al., 2004).

Table 4: Support tasks received

Support Task	Responses	Category of tasks (Dobbs et al., 2004)
In the past month has anyone prepared meals for you, dropped off homemade food, or invited you to dinner?	1 Yes 2 No	Housework
In the past month has anyone done any shopping such as picking up groceries or other necessities for you?	1 Yes 2 No	Housework
In the past month has anyone done any housekeeping, such as washing floors, vacuuming, dusting, laundry or mending for you?	1 Yes 2 No	Housework
In the past month has anyone helped you with your house such as watered your plants, fed your pets, or picked up your mail while you have been away?	1 Yes 2 No	Checking the house
In the past month has anyone done any outdoor work for you such as painting and minor repairs, shovelling snow or chopping firewood?	1 Yes 2 No	Housework
In the past month has anyone provided you with transportation for medical appointments?	1 Yes 2 No	Transportation
In the past month has anyone provided you with transportation for necessary outings such as shopping or banking?	1 Yes 2 No	Transportation
In the past month has anyone provided you with transportation for social outings?	1 Yes 2 No	Transportation
In the past month has anyone assisted you with financial matters such as paying bills, banking and income tax, or legal matters such as creating wills, power of attorney, or transfer/sale of property or estate planning?	1 Yes 2 No	Household arrangements
In the past month has anyone made arrangements for you, such as obtaining information, making appointments or negotiating the provision of services?	1 Yes 2 No	Household arrangements
In the past month has anyone checked up on you either in person or by telephone to make sure that you are okay?	1 Yes 2 No	Emotional support
In the past month has anyone provided you with emotional support?	1 Yes 2 No	Emotional support
In the past month has anyone given you a short break from your caregiving responsibilities?	1 Yes 2 No	Emotional support

Types of tasks and services provided: Instrumental, informational and emotional tasks that were considered in the exchange patterns were limited to the tasks that appeared in the survey instrument. They were also limited to tasks that the respondent provided to their network members over the past month, providing information only on recent contributions. Types of tasks asked about in the survey are listed in Table 5. These mirror tasks received with the exception of the question on providing child care, which was only applicable to support provided.

Table 5: Support tasks provided

Support Task	Responses
In the past month have you prepared meals for anyone, dropped off homemade food, or invited anyone to dinner?	1 Yes 2 No
In the past month have you done any shopping such as picking up groceries or other necessities for anyone?	1 Yes 2 No
In the past month have you done any housekeeping, such as washing floors, vacuuming, dusting, laundry or mending for anyone?	1 Yes 2 No
In the past month have you helped anyone with their house such as watered their plants, fed their pets, or picked up their mail while they have been away?	1 Yes 2 No
In the past month have you done any outdoor work for anyone such as painting and minor repairs, shovelling snow or chopping firewood?	1 Yes 2 No
In the past month have you provided transportation for anyone for medical appointments?	1 Yes 2 No
In the past month have you provided transportation for anyone for necessary outings such as shopping or banking?	1 Yes 2 No
In the past month have you provided transportation for anyone for social outings?	1 Yes 2 No
In the past month have you assisted anyone with financial matters such as paying bills, banking and income tax, or legal matters such as creating wills, power of attorney, or transfer/sale of property or estate planning?	1 Yes 2 No
In the past month have you assisted anyone with making arrangements (such as obtaining information, making appointments or negotiating the provision of services)?	1 Yes 2 No
In the past month have you checked up on anyone either in person or by telephone to make sure that they were okay?	1 Yes 2 No
In the past month have you provided someone with emotional support?	1 Yes 2 No
In the past month have you given someone a short break from their caregiving responsibilities?	1 Yes 2 No
In the past month have you provided child care for anyone?	1 Yes 2 No

Background characteristics of the older adult: Characteristics of the older adult incorporated into the analyses included gender, marital status, age, education, perceived income, perceived health, and length of time in the community (Table 6). For the analyses some responses were recoded (i.e. being married and living common-law were recoded into one category) and dummy coded so they were appropriate for the analyses.

Background variables were selected because they were identified in the literature review as indicators of need and/or they were empirically linked to the giving and receiving of tasks and services. They are also key socio-demographic variables, which helped to identify which older adults had stronger or more fragile social and support networks. Secondary reasons for including these variables are that they were available in the survey, most participants answered these questions (i.e. actual income was excluded because 20% of participants did not answer that question), and there was variation in responses.

Table 6: Background characteristics

Characteristic	Survey Question	Responses	Recodes
Gender	Recorded by interviewer	1 Male 2 Female	0= Male 1= Female
Marital Status	What is your marital status?	1 Married 2 Living common-law 3 Widowed 4 Separated 5 Divorced 6 Single never married	0= Not married 1= Married or common-law
Age	May I ask which age group you belong to. Are you... What year were you born?	1 65-74 2 75 and older [specify year]	0= 65-74 1= 75+
Education	What is the highest level of formal education you have completed?	1 No formal education 2 Elementary school 3 Secondary school 4 Postsecondary degree, certificate or diploma 5 Graduate degree	1= Elementary or less 2= Secondary school 3= Postsecondary or more
Perceived income	Do you usually have enough money to take care of those little extras?	1 Yes 2 No	0= No 1= Yes
Perceived health	Compared to other people your age, in general would you say that your health is:	1 Poor 2 Fair 3 Good 4 Very good 5 Excellent	1= Poor or fair 2= Good 3= Very good or excellent
Length of time in the community	How long have you lived in [community]?	[specify number of years]	1= 1-5 years 2= 6-25 3= 26+

Ethical Considerations

When the survey was initially developed and conducted, informed consent took place with all participants, and there was no known harm to participants, no invasion of privacy, and no deception involved. The survey instrument and data collection protocols were reviewed and approved by the Faculty of Agriculture, Forestry, and Home Economics Human Research Ethics Board, the University of Alberta Health Research Ethics Board-Panel B, and Mount Saint Vincent University Research Ethics Board. A benefit of secondary analysis is that ethical considerations have already been addressed, as the data have been previously collected and approved by ethics committees. The data were anonymous; participants could not be identified.

Limitations of Secondary Analysis

Bryman (2001) lists four main limitations to secondary analysis. These include lack of familiarity with the data, complexity of the data, no control over data quality, and absence of key variables. Fortunately because the author was part of the team who created the survey, some of these limitations were overcome. The author was familiar with the data and understood that the data were complex as a file existed for both individual and network level information. Also, as this dissertation topic was developing when the survey was created, many of the key variables required were included in the survey instrument. However, analyses were still restricted by the variables that appeared in the original survey.

CHAPTER 5: RESULTS

In the previous chapter, an analytic plan was presented to address the research questions. This chapter outlines the results of the analyses, which are organized by the four main research questions. The social support resources of rural older adults are examined through variation in their social networks, support networks, tasks received, and exchange patterns. Background characteristics of older adults are addressed throughout this chapter to acknowledge the diversity among rural seniors and to explore how this diversity relates to their social support resources.

Research Question 1:

How does the potential for social support vary among older adults in rural Canada?

Findings presented in this section provide evidence of diversity in the social networks of older adults. This diversity is relevant because social connections are the necessary building blocks for supportive exchanges. In the first section findings show that internally, social network types are heterogeneous in composition. When compared, social network types vary somewhat from each other. In the second section, it is found that an older adult's gender, marital status, age and length of time lived in the community, are associated with their social network type. These background characteristics inform which older adults have greater or more limited social support potential.

1a) What variations exist in the structure of social networks of rural older adults?

Five social network types were identified in the cluster analysis. Approximately one third (33.8%) of respondents had *Children at a distance* networks, 26.1% had *Diverse local community* networks, 22.1% had *Older friends and neighbours* networks, 15.2% had *Diverse outside community* networks, and 2.8% had *Spouse focused* networks.

Table 7 shows the characteristics of the five social network types. For network size, the larger numbers indicate a greater number of people in the social network. Relationship, gender, age and proximity of network members are represented as proportions. For example, 72% of network members in *Spouse focused* networks were aged 65 or older.

1. *Older friends and neighbours* networks were mid-sized networks comprising mainly non-kin (52%), with some family members. Most network members were 65 years of age or older (60%), and living nearby. Equal proportions of men and women comprised this network.

2. *Diverse local community* networks were larger in size and characterized by a mix of family, friends and neighbours. These networks included a mix of ages, and a slightly higher proportion of women (56%). Most network members lived nearby, with about a third (32%) living outside the community.

3. *Spouse focused* networks were the smallest in size averaging about two people, including a spouse and another friend or family member. Most network members were female (68%), aged 65 or older (72%), likely living in the same building (60%).

4. *Children at a distance* networks were mid-sized networks comprising children (44%) and a mix of other relationships. Most members were under the age of 65 (65%) and resided outside the community (59%). A slightly higher proportion of women (53%) comprised this network.

5. *Diverse outside community* networks were the largest in size, averaging 17 members. These networks consisted of a mix of close family, other family and non-kin relationships, and members of various ages. There were slightly more females included (54%). This network is distinguished from *Diverse local community* networks, as the majority of members resided outside the community (55%).

The structure of social networks illustrates variation in social support potential. A strong indicator of support potential is network size. Table 7 shows that with the exception of the approximately 3% of respondents who had *Spouse focused* social networks older adults in rural Canada have a variety of potential supporters, averaging between 6-17 members. However, alongside older adults who have a greater number of social connections are seniors who are more socially isolated, as they are connected with few people. *Spouse focused* networks might be more fragile, for if something were to happen to the network member(s), or they were unable or unwilling to provide needed tasks, there may be no backup support.

There were similarities in rural older adults' social connections. All social network types were fairly heterogeneous in composition, including a mix of kin and non-kin members. In addition, with the exception of the *Spouse focused* networks, older adults had social networks consisting of a relatively equal proportion of males and females.

There was however, some distinction among social network types in regards to age. Two of the five networks (*Older friends and neighbours; Spouse focused*), accounting for approximately a quarter (24.9%) of all respondents, were dominated by members aged 65 years and older, while the other three network types had mainly younger potential supporters. There was also diversity in the proximity to potential supporters, with two of the five network types (*Children at a distance, Diverse outside community*) having the majority of their potential supporters living outside the community. Together these two networks comprised almost half (49%) of respondents. Distance of social network members may influence older adults' social support potential.

Table 7: Characteristics of older adults' social network types[5]

Network Characteristic	1. Older friends and neighbours n=289 (22.1%) (%)	2. Diverse local community n=342 (26.1%) (%)	3. Spouse focused n=37 (2.8%) (%)	4. Children at a distance n=442 (33.8%) (%)	5. Diverse outside community n=199 (15.2%) (%)	All seniors with social networks n=1312 (100%) (%)
Size (mean people)	6.2	11.1	2.4	7.4	17.0	9.4
Range	1-10	6-17	1-5	2-13	11-29	1-29
Relationship						
Spouse	12	7	52	11	5	11
Children	19	30	19	44	24	31
Other family	17	20	16	21	38	22
Friends and Neighbours	52	42	13	23	33	36
Gender						
Female	50	56	68	53	54	54
Male	50	44	32	47	46	46
Age						
Under 45	11	20	5	26	25	20
45-64	29	38	23	39	31	35
65+	60	43	72	35	45	45
Proximity						
Same building	14	9	60	13	7	13
Same community	67	59	17	27	39	46
Outside the Community	19	32	23	59	55	41

[5] 1309 respondents had all the required information on their network members to be included in the cluster analysis.

1b) What personal characteristics of older adults are associated with each social network type?

Variation in the structure of older adults' social networks suggests that network resources are not universally available. While most rural older adults had large social networks of family and friends, others had limited connections.

Table 8 shows the characteristics of older adults associated with each social network type. Gender of the respondent (χ^2= 19.756), their marital status (χ^2= 13.582), age (χ^2= 14.602), and the length of time lived in the community (χ^2= 19.242) were significantly associated with social network type. Superscript letters in the table report the significance between two proportions. Significance levels are reported beneath the table. For example superscript [a] shows a significant difference between the proportion of females for network types 1 and 2 ($p \leq .05$). Superscript [b] shows a significant difference between the proportion of females for network types 1 and 5 ($p \leq .001$).

Gender. Women were most strongly represented in *Diverse outside community* social networks. Over 60% of older adults with *Diverse outside community* networks were women. Diverse social network types were the largest in size providing increased support potential. As many women in the sample were married, it is possible some of their networks may have expanded because of their spouses' social connections. Compared to women, men were more likely to have *Spouse focused* support networks. Approximately 62% of older adults with *Spouse focused* networks were men. These findings suggest that for a small subgroup of men, spouses may be particularly important for day-to-day interactions.

Marital status. It is not a surprise that married seniors were most strongly represented in *Spouse focused* networks. Approximately 95% of older adults with *Spouse focused* social networks were married. Individuals who were widowed, single or divorced were most strongly represented in *Older friends and neighbours* social networks. Approximately 28% of older adults with *Older friends*

and neighbours networks were not currently married. For unpartnered seniors, building connections with non-kin may be essential for creating support potential.

Age. Younger seniors had a strong presence in diverse networks. Over 50% of seniors who had *Diverse local community* and *Diverse outside community* networks were aged 65-74. Older seniors were most strongly represented in *Spouse focused* networks. Over 60% of older adults with *Spouse focused* networks were aged 75 and older. This suggests a subgroup of older seniors may be relatively isolated.

Length of time in the community. Long-term residents were strongly represented in *Diverse local community* networks. Over 60% of older adults with *Diverse local community* social networks had lived in their community 26 years or longer. These large networks provide some evidence of the relevance of ageing in place. Living in the community for a long period of time can help build social networks, increasing the number of potential supporters available.

Table 9 shows the results of a multinomial regression. Despite seniors with *Older friends and neighbours*, *Diverse local community,* and *Diverse outside community* networks being more likely to live in the community longer than individuals with *Spouse focused* networks, this regression indicates that marital status and age are the only common characteristics that distinguish older adults with restricted networks from seniors with larger social networks. Older adults who have more restricted networks were significantly more likely to be married and older in age than individuals who had each of the other social network types. It may be that that with age, these individuals have come to focus mainly on their spouse for their social interactions, isolating them from other potential supporters.

Table 8: Respondent characteristics by social network type

Respondent Characteristic	1. Older friends and neighbours n=289 (22.1%) (%)	2. Diverse local community n=342 (26.1%) (%)	3. Spouse focused n=37 (2.8%) (%)	4. Children at a distance n=442 (33.8%) (%)	5. Diverse outside community n=199 (15.2%) (%)
Gender* **					
Female	44.3[ab]	52.9[ac]	37.8[d]	47.1[e]	61.8[bcde]
Marital status**					
Married	71.5[fgh]	79.8[fi]	94.6[gijk]	77.8[j]	79.4[hk]
Age**					
65-74	43.3[lm]	55.3[ln]	37.8[no]	48.9	56.3[mo]
75 and older	56.7	44.7	62.2	51.1	43.7
Education					
Elementary school or less	29.2	26.8	36.4	32.6	29.6
Secondary school	42.6	43.5	39.4	39.6	37.7
Postsecondary or higher	28.2	29.7	24.2	27.8	32.7
Enough money to take care of little extras					
Yes	90.1	89.1	85.7	85.6	89.9
Perceived health					
Poor or fair	24.0	20.4	24.3	28.2	23.7
Good	34.0	30.7	29.7	29.3	27.8
Very good or excellent	42.0	49.0	45.9	42.5	48.5
Time in the community*					
1-5 years	8.0	5.6[p]	16.2	10.9[p]	7.0
6-25 years	38.9	33.3	45.9	38.3	41.7
26 or more years	53.1[q]	61.1[qrst]	37.8[r]	50.8[s]	51.3[t]

*, a, c, f, h, n, o, q, t = p≤.05 **, d, k, l, m, p, r, s = p≤.01

***, b, e, g, i, j= p≤.001

Table 9: Parameter estimates using multinomial logistic regression

Social network type	Background characteristic	B	Std. Error	Wald	Exp(B)
1	**Gender**				
Older friends and	Male	.073	.382	.037	1.076
	Marital Status				
neighbours	Not married	2.039**	.749	7.410	7.687
	Age	-.077*	.032	5.705	.926
	Education				
	Secondary school	.363	.435	.699	.695
	Postsecondary	.489	.498	.966	.613
	(ref: elementary)				
	Perceived health				
	Good health	-.006	.527	.000	1.006
	Excellent health	-.359	.491	.533	1.432
	(ref: poor/fair health)				
	Time in the community	.019*	.009	4.578	1.019
2	**Gender**				
Diverse local community	Male	-.196	.380	.268	.822
	Marital Status				
	Not married	1.656*	.752	4.857	5.240
	Age	-.121***	.032	14.214	.886
	Education				
	Secondary school	.422	.433	.947	.656
	Postsecondary	.577	.495	1.357	.562
	(ref: elementary)				
	Perceived health				
	Good health	.035	.528	.004	.965
	Excellent health	-.065	.490	.017	1.067
	(ref: poor/fair health)				
	Time in the community	.029***	.009	10.238	1.029
4	**Gender**				
Children at a distance	Male	-.039	.374	.011	.962
	Marital Status				
	Not married	1.712*	.746	5.260	5.537
	Age	-.090**	.031	8.153	.914
	Education				
	Secondary school	.165	.425	.152	.847
	Postsecondary	.342	.487	.493	.711
	(ref: elementary)				
	Perceived health				
	Good health	-.300	.517	.337	1.350
	Excellent health	-.495	.480	1.063	1.641
	(ref: poor/fair health)				

	Time in the community	.015	.009	3.026	1.015
5 Diverse outside community	**Gender**				
	Male	-.596	.392	2.315	.551
	Marital Status				
	Not married	1.733*	.760	5.204	5.657
	Age	-.116***	.033	12.197	.891
	Education				
	Secondary school	.121	.447	.073	.886
	Postsecondary *(ref: elementary)*	.453	.507	.800	.635
	Perceived health				
	Good health	-.218	.542	.161	1.243
	Excellent health *(ref: poor/fair health)*	-.258	.502	.264	1.294
	Time in the community	.022*	.009	5.661	1.022

Nagelkerke Pseudo R^2: .070 -2 Log likelihood: 3.555E3
*p≤ .05 **p≤.01 ***p≤.001

Research Question 2:

How do networks of people who actualize potential support vary among older adults? How do support networks differ from social networks?

Findings presented in this section provide evidence of diversity in the support networks of older adults. In the first section findings show that internally, the composition of each support network type is relatively homogenous. When support network types are compared, there is distinct variation in their compositions. In the second section, older adults' gender, marital status, age and perceived income are found to be associated with support network types. In the third section comparisons between the characteristics of potential and actual supporters show patterns in the set of social network members who step forward to provide support.

2a) What variations exist in the structure of support networks of rural older adults?

Approximately one third (31.8%) of respondents had *Diverse outside community* support networks, 20.4% had *Diverse proximate* support networks,

19.7% had *Female children* support networks, 19.4% had *Male non-kin* support networks, and 8.7% had *Spouse focused* support networks. Table 10 shows the characteristics of the five support network types identified in the cluster analysis.

1. *Diverse proximate* networks were relatively larger networks comprising a mix of friends and neighbours (51%), other family (26%), and close kin. The network comprised mainly females (81%), persons aged 65 and older (67%), and people who lived in the same community (68%).

2. *Male non-kin* networks were smaller in size and characterized by mainly friends and neighbours (73%), who were likely to be male (70%), and living in the same community (84%). These networks comprised a mix of ages, with most aged 45-64 (48%) or 65 and older (42%).

3. *Spouse focused* networks were the smallest in size, averaging one to two members. These networks comprised mainly a spouse (72%) with perhaps another family member or friend. The majority were aged 65 and older (70%), living in the same building (79%). Equal proportions of men and women comprised this network.

4. *Female children* networks were mid-sized and comprised mainly children (77%), the majority of whom were aged 45-64 (78%). Most were female (78%) and living in the same community (52%), although a substantial proportion also live outside the community (40%).

5. *Diverse outside community* networks were the largest in size, averaging four to five members. While comprising mainly children (62%), these networks are differentiated from the *Female children* networks as they include a higher proportion of other family and non-kin relationships. A slightly higher proportion of males (57%) also comprised this network. There was a mix of ages, with a higher proportion of network members living outside the community (59%) then found in other network types.

Support network types provide a useful way of illustrating variation in the network of people who actualize their social support potential. They also help to challenge the assumption of universal supportiveness of rural communities. One of the differences evident among support network types was their size. Table 10 shows that the average size of networks varied from 1.5 members to 4.5 members. On the higher end of the scale, those who receive tasks from the broadest group of people are individuals who have *Diverse outside community* networks. These networks epitomize the support expected in rural communities, and are the most common network type. The most vulnerable network is the S*pouse focused* network, as it averages only 1.5 supporters. Individuals with this network type include 8.7% of seniors.

Compared with social network types, support network types are more homogeneous in their composition. For example, while there was a social network type characterized by a high proportion of non-kin members (*Older friends and neighbours,* 52%), there was a support network type that was more strongly defined by these relationships (*Male non-kin*, 73%). In a similar manner, while most social network types included both female and male members, gender of network members was more prominent in support networks. Two support networks comprised mainly females (*Diverse proximate, 81%; Female children, 78%*), whereas one comprised mainly males (*Male non-kin, 70%*). These differences illustrate that while older adults may be socially connected to a variety of family and friends; support is received from a much more specific group of people.

As a consequence of internal homogeneity, support network types are more distinct from each other than social network types. Three support networks comprised mainly close kin, including a spouse and children *(Spouse focused, Female children,* and *Diverse outside community),* while two comprised mainly non-kin members. Social network types included a mix of kin and non-kin relationships, making them less distinct. Similarly, two support networks comprised mainly females (*Diverse proximate; Female children*), whereas two comprised mainly males (*Male non-kin; Diverse outside community*). Age of network members also varied among support network types. Two of the five

networks (*Diverse proximate; Spouse focused*) were dominated by members aged 65 years and older; while three network types had mainly younger supporters. However, this is comparable to social network types.

Despite the finding that four of five support network types comprised members based mainly in the same building or community, the most prominent support network type, *Diverse outside community,* had 59% of support network members living outside the community. This support network type represents 31.8% of all networks, which is lower than the 49% of social network types that were comprised mainly of geographically distant members. This finding illustrates the importance of proximity in the exchange of tasks of services for most seniors. However for a subgroup of rural older adults, support in their day-to-day lives is provided from a distance.

Table 10: Characteristics of older adults' support network types[6]

Network characteristic	1. Diverse proximate n = 222 (20.4%) (%)	2. Male non-kin n = 211 (19.4%) (%)	3. Spouse focused n = 95 (8.7%) (%)	4. Female children n = 215 (19.7%) (%)	5. Diverse outside community n = 346 (31.8%) (%)	All seniors with support networks n=1110 (100%) (%)
Size (mean people)	3.5	2.8	1.5	3.0	4.5	3.3
Range	1-12	1-11	1-3	1-9	1-12	1-12
Relationship						
Spouse	7	4	72	3	8	11
Children	16	13	13	77	62	42
Other family	26	10	5	7	14	14
Friends and Neighbours	51	73	10	13	17	34
Gender						
Female	81	30	49	78	43	55
Male	19	70	51	22	57	45
Age						
Under 45	13	9	10	15	39	21
45-64	20	48	20	78	39	43
65+	67	42	70	7	22	36
Proximity						
Same building	10	5	79	8	10	15
Same community	68	84	16	52	31	52
Outside the Community	22	10	5	40	59	33

[6] 1,089 respondents had all the required information on their network members to be included in the cluster analysis.

2b) What personal characteristics of older adults are associated with each support network type?

Variation in the structure of rural older adults' support networks suggests that support is not equally accessible. While some older adults received support from a rich network of family and friends, others had small restricted support networks. It is useful from a policy and practice perspective to identify key characteristics which can help identify older adults who are likely to have the various support network types.

Table 11 shows the characteristics of older adults who were associated with each support network type. Gender of the respondent (χ^2= 42.183), marital status (χ^2= 37.235), age (χ^2=39.612), and whether they perceived that they had enough money to take care of little extras (χ^2= 10.123) were all significantly associated with support network type. Superscript letters in the table report the significance between two proportions. Significance levels are reported beneath the table. For example superscript [a] shows a significant difference between the proportion of females for network types 1 and 2 ($p \leq .001$).

Gender. Women were highly represented in *Diverse proximate* support networks. Over 66% of older adults with *Diverse proximate* support networks were women. Diverse networks were the largest in size, indicating a greatest number of supporters. Men were strongly represented in non-kin networks. Compared to women, men were more likely to have *Male non-kin* support networks (64.5%). These networks are smaller in size and comprise mainly local non-kin connections.

Marital status. Individuals who were widowed, single or divorced were also strongly represented by *Diverse proximate* support networks. Approximately 32% of older adults with *Diverse proximate* support networks were not married. It may be that for seniors who are widowed, single or divorced, non-kin are important for interactions and support. Indeed, *Diverse proximate* support networks comprised a high proportion of friends and neighbours (51%). Not

surprising, married seniors were most strongly represented in *Spouse focused* support networks. Over 96% of older adults with *Spouse focused* support networks were married.

Age. Older seniors were most strongly represented by *Female children* networks. Over 68% of older adults with *Female children* support networks were aged 75 and older. With age, older adults who have children may receive much of their support from them. Younger seniors were most strongly represented by *Spouse focused* support networks. Over 60% of older adults with *Spouse focused* support networks were aged 65-74. Individuals with *Spouse focused* support networks may include both isolated seniors (who had restricted social networks) along with well connected younger seniors who are stoic, accepting limited assistance.

Income adequacy. Perceived income was significantly associated with support network types. Older adults who had *Diverse outside community* support networks had lower perceived incomes. Almost 16% of older adults with *Diverse outside community* networks thought they did not have enough money to take care of little extras. It may be that lower income seniors have larger support networks because of their restricted ability to pay for formal services. On the other hand, older adults who had *Spouse focused* networks had higher perceived incomes. Over 92% of older adults with *Spouse focused* networks felt they had enough money to take care of little extras. It may be that individuals with *Spouse focused* support networks pay for the services they need, thus have small networks because they do not need as much assistance from family and friends.

Table 12 shows the results of a multinomial regression. Despite the significance of gender for distinguishing *Diverse proximate* and *Male non-kin* networks from *Spouse focused* networks, and age for distinguishing *Female children* networks from *Spouse focused* networks, this regression indicates that once other factors are controlled for marital status is the only characteristic that distinguishes older adults with restricted support networks from seniors with larger support networks. Older adults with *Spouse focused* support networks were more likely to be married than any other support network type, not

surprising since their spouse was the focus of their network. Recall that marital status was also a strong predictor of having a restricted social network. It may be that these married individuals are socially isolated, receiving all their support from their spouse. Or, they may be stoic, only accepting support from a spouse, close family member or friend.

Table 11: Respondent characteristics by support network type

Respondent Characteristic	1. Diverse proximate n = 222 (20.4%) (%)	2. Male non-kin n = 211 (19.4%) (%)	3. Spouse focused n = 95 (8.7%) (%)	4. Female children n = 215 (19.7%) (%)	5. Diverse outside community n = 346 (31.8%) (%)
Gender* **					
Female	66.2[abc]	35.5[adef]	55.8[d]	55.3[be]	53.5[cf]
Marital status* **					
Married	67.6[ghi]	68.6[jkl]	96.8[gjmn]	77.1[hkm]	77.5[iln]
Age* **					
65-74	47.3[opq]	48.3[rs]	62.1[ort]	31.6[pstu]	56.1[qu]
75+	52.7	51.7	37.9	68.4	43.9
Education					
Elementary school or less	30.3	28.6	26.6	38.0	28.7
Secondary school	42.1	43.3	40.4	37.6	40.6
Postsecondary or higher	27.6	28.1	33.0	24.4	30.7
Enough money to take care of little extras*					
Yes	86.2	91.0[v]	92.3[w]	91.0[x]	84.3[vwx]
Perceived health					
Poor or fair	27.1	25.2	18.9	23.4	28.4
Good	30.3	32.9	31.6	29.9	27.5
Very good or excellent	42.5	41.9	49.5	46.7	44.2
Time in the community					
1-5 years	7.7	8.5	6.3	6.5	9.8
6-25 years	41.6	36.0	42.1	33.2	36.4
26 or more years	50.7	55.5	51.6	60.3	53.8

*, b, h, i, k, l, o, q, r, v, w, x = p≤.05 c = p≤.01

***, a, d, e, f, g, j, m, n, p, s, t, u = p≤.001

Table 12: Parameter estimates using multinomial logistic regression

Support network type	Background characteristic	B	Std. Error	Wald	Exp(B)
1	**Gender**				
Diverse	Male	-.687**	.266	6.664	.503
proximate	**Marital Status**				
	Not married	2.637***	.609	18.732	13.972
	Age	.035	.023	2.293	1.036
	Education				
	Secondary school	.024	.324	.005	.977
	Postsecondary	-.242	.342	.500	1.273
	(ref: elementary)				
	Money for extras				
	No	.376	.453	.689	1.457
	Perceived health				
	Good health	-.395	.374	1.120	1.485
	Excellent health	-.591	.349	2.872	1.806
	(ref: poor/fair health)				
	Time in the community	-.003	.006	.298	.997
2	**Gender**				
Male non-kin	Male	.624*	.264	5.582	1.867
	Marital Status				
	Not married	2.460***	.609	16.292	11.701
	Age	.034	.023	2.197	1.034
	Education				
	Secondary school	.235	.325	.525	.790
	Postsecondary	-.019	.343	.003	1.019
	(ref: elementary)				
	Money for extras				
	No	.013	.473	.001	1.013
	Perceived health				
	Good health	-.164	.374	.193	1.178
	Excellent health	-.503	.352	2.046	1.653
	(ref: poor/fair health)				
	Time in the community	.000	.006	.000	1.000
4	**Gender**				
Female	Male	-.271	.263	1.061	.763
children	**Marital Status**				
	Not married	1.924**	.615	9.790	6.846
	Age	.090***	.023	15.341	1.094
	Education				
	Secondary school	-.261	.320	.665	1.298
	Postsecondary	-.561	.340	2.725	1.753

	(ref: elementary)				
	Money for extras				
	No	.053	.472	.013	1.055
	Perceived health				
	Good health	-.229	.378	.368	1.258
	Excellent health	-.202	.351	.332	1.224
	(ref: poor/fair health)				
	Time in the community	.001	.006	.041	1.001
5	**Gender**				
Diverse	Male	-.075	.245	.095	.928
outside	**Marital Status**				
community	Not married	2.072***	.605	11.735	7.942
	Age	.012	.022	.297	1.012
	Education				
	Secondary school	.085	.305	.078	.918
	Postsecondary	-.053	.319	.027	1.054
	(ref: elementary)				
	Money for extras				
	No	.620	.428	2.099	1.859
	Perceived health				
	Good health	-.515	.354	2.121	1.674
	Excellent health	-.597	.328	3.307	1.817
	(ref: poor/fair health)				
	Time in the community	-.004	.005	.577	.996

Nagelkerke Pseudo R^2: .137 -2 Log likelihood: 3.092E3

*p≤ .05 **p≤.01 ***p≤.001

2c) What is the relationship between the characteristics of social and support networks?

Findings presented thus far show that support network types are more homogeneous in composition than social networks. Support networks also show more variation across network types than social networks. In this section, there is a direct comparison between the characteristics of social and support networks.

Table 13 compares the social and support network characteristics of respondents who received support over the past month. There were significant differences found in the size of social and support networks, averaging 10 and 3 people respectively. This confirms support is received from a much narrower

group than are members of social networks. In other words, not everyone who provides the potential for support actualizes their potential.

Findings also show patterns in the set of social network members who step forward to provide support. Spouses and children were more prevalent in support networks compared to social networks, as were individuals aged 45-64. In addition, individuals who provide support were more likely to live in the same building or same community. Overall, spouses, children, those who were middle aged, and living locally were most likely to provide support. However, caution should be taken with generalizing support network membership because as previously shown support network types evidence great variation. Furthermore, findings are based on cross-sectional data which show which network members currently provide tasks and services, and not who might step forward to provide future support, or who received support from the respondent earlier in life, thus increasing the likelihood that they will reciprocate later.

No significant differences were found between social and support networks in the proportion of individuals under age 45 or in the proportion of males and females. This suggests that younger people, such as adult grandchildren or younger neighbours, are just as likely to be connected to older adults as they are to provide them with support. Similarly, findings on gender composition challenge the assumption that women are the main providers of support to older adults. This is because similar proportions of women and men are found in social and support networks, illustrating how both genders are recruited into support networks.

While less prevalent than in social networks, approximately 34% of support network members were friends or neighbours and 36% were over the age of 65. This evidences the active role of non-kin and of seniors as providers of tasks and services to older people.

Table 13: Characteristics of older adults' social and support networks

Network Characteristic	Social Networks N=1110 (%)	Support Networks N=1110 (%)	Significance Levels (2-tailed)
Relationship			
Spouse	9.3	11.3	.003
Children	31.4	41.5	.000
Other family	22.6	13.5	.000
Friends/Neighbours	36.7	33.7	.002
Gender			
Female	54.1	55.4	.149
Male	45.9	44.6	.149
Age			
Under age 45	20.1	20.9	.249
45-64	35.6	43.1	.000
65+	44.4	36.0	.000
Proximity			
Same building	11.7	14.7	.000
Same community	47.4	51.9	.000
Outside the community	40.9	33.4	.000
Network Size			
Mean	9.8	3.3	.000
Range	1-29 people	1-12 people	

Research Question 3:

What is the variation in the social support that is actualized?

Previous findings have illustrated the presence of different support networks in rural Canada, and the characteristics of older adults who are likely to have each support network type. In this section, the association between support network types and social support received is examined. It is found that support network types are associated with the number of tasks received, and that support network types can predict the receipt of emotional support.

3a) Does the number of tasks that are received differ by support network type? Do the types of tasks that are received differ by support network type?

Table 14 reports the average number and range of tasks received by support network type. The results of an ANOVA indicate that number of tasks differ by support network type (F=9.076). Of the 13 tasks asked about in the survey, individuals with larger *Diverse outside community* support networks received the highest number of tasks (mean=3.36; range 1-11 tasks), whereas individuals with restricted *Spouse focused* support networks received the lowest number of tasks (mean=2.45; range 1-8 tasks). It is possible that individuals with *Spouse focused* networks receive fewer tasks because some of the tasks asked about are not usually provided by a spouse. For example, one question asked whether anyone helped water plants, feed pets, or pick up mail while away. Another question asked if anyone checked up on the respondent. While *Spouse focused* networks often include more than a spouse, the presence of this relationship may explain why these specific tasks were not received. Therefore caution should be taken with the interpretation of these results.

Table 14: Number of tasks received by support network type

	1. Diverse proximate **n = 222 (20.4%)**	**2. Male non-kin** **n = 211 (19.4%)**	**3. Spouse focused** **n = 95 (8.7%)**	**4. Female children** **n = 215 (19.7%)**	**5. Diverse outside community** **n = 346 (31.8%)**
Mean***	3.16^{ab}	2.76^{c}	2.45^{ad}	2.62^{be}	3.36^{cde}
Range	1-10	1-10	1-8	1-9	1-11

a, b = p≤.05 c = p≤.01 ***, d, e = p≤.001

As forecast, differences in the receipt of support can extend to the types of support received. Table 15 shows what proportion of participants with each support network type received at least one task in the following five categories: Transportation; housework; emotional support; household arrangements; and checking the house. Emotional support was significantly associated with support network type (χ^2=111.080), however no other statistically significant associations were found. Seniors with *Diverse outside community* support networks were most

likely to receive emotional support (85.5%); whereas older adults with *Spouse focused* support networks were least likely to receive emotional support (33.7%).

Despite few significant findings, important patterns emerged. High proportions of seniors across all network types received support with housework, which included both indoor and outdoor work. Conversely, only small proportions of older adults received assistance with household arrangements, which included help with financial and legal matters, and making arrangements such as making appointments or negotiating the provision of services. This indicates that 1) older adults may have the greatest need for assistance with housework to help them in their day-to-day lives; 2) older adults are willing to receive help with this type of task; and 3) housework is a task that many support network members are willing and able to provide. Assistance with household arrangements may be needed less frequently. It is a task that some supporters may not have the skills to provide, or may be considered too personal or sensitive.

Table 15: Proportion of respondents receiving a task by support network type

Task	1. Diverse proximate n = 222 (20.4%) (%)	2. Male non-kin n = 211 (19.4%) (%)	3. Spouse focused n = 95 (8.7%) (%)	4. Female children n = 215 (19.7%) (%)	5. Diverse outside community n = 346 (31.8%) (%)
Transportation	38.7	32.2	34.7	29.8	35.5
Housework	77.0	76.3	72.6	71.6	78.9
Emotional support***	72.1[abc]	59.7[adef]	33.7[bdgh]	70.2[egi]	85.5[cfhi]
Household arrangements	13.1	12.3	10.5	14.9	17.6
Checking the house	20.3	24.6	11.6	19.5	21.7

e = p≤.05 a = p≤.01 ***, b, c, d, f, g, h, i = p≤.001

Table 16 shows the results of a logistic regression run for emotional support. Results indicate that, when background characteristics of the older adult are controlled, support network types are still predictors of the receipt of emotional support. This regression provides evidence that being female, being

less educated, and having a support network type other than *Spouse focused*, is associated with the receipt of emotional support.

Table 16: Logistic regression on emotional support

Independent variables	B	SE B	Exp (B)	Wald
Gender				
Female	.578***	.151	1.782	14.557
Marital status				
Married	-.310	.178	.734	3.038
Age	.000	.013	1.000	.002
Education				
Secondary school	-.349*	.177	.705	3.884
Postsecondary or higher	-.164	.196	.849	.701
(ref: elementary or less)				
Enough money to take care of little extras				
Yes	-.252	.245	.777	1.055
Perceived health				
Good	-.137	.202	.872	.463
Very good or excellent	-.350	.187	.705	3.493
(ref: poor or fair)				
Time in the community	-.002	.003	.998	.404
Support Network Type				
1: Diverse proximate	1.475***	.279	4.371	27.921
2: Male non-kin	1.096***	.275	2.992	15.898
4: Female children	1.514***	.279	4.546	29.433
5: Diverse outside community	2.508***	.280	12.286	80.112
(ref: spouse focused)				
(Constant)	.025	1.035	1.025	.001

Nagelkerke R^2: .174 -2 Log likelihood: 1148.277

*p≤ .05 ***p≤.001

Research Question 4:

What variation exists in the exchange patterns of rural older adults?

Thus far, findings have focused on social networks, which are the building blocks of supportive relationships; support networks, which include network members from whom support is received; and tasks received from various support network types. In this section, the exchange of tasks is examined to inform understanding of the exchange patterns of rural older adults. Findings are that the majority of older adults provide a high number of tasks and services to their family and friends, which is important for building and maintaining their relationships. There is diversity found in exchange patterns, predicted in part by the background characteristics of older adults. The second section provides evidence that social network characteristics are strong predictors of the balance of exchanges. Social networks can provide additional clues to the availability of future support.

4a) What are the characteristics of individuals with each exchange pattern?

It was found that 202 (15.4%) of older adults in the sample who had social networks did not have support networks. That is, they reported receiving no tasks or services from other people. Some of these older people may not be receiving tasks because they do not currently need them, because they do not have people who can provide these tasks, or because they are unwilling to receive these tasks from anybody. They may also be net providers of tasks, banking support for future reciprocation. Thus, when exploring which older adults have stronger or weaker social support resources it is relevant to consider support provided to others in addition to support received.

In total, 96.9% of respondents participated in exchanges by providing and/or receiving tasks and services, while 3.1% did not receive or provide any tasks. Table 17 shows that the background characteristics of ‘exchangers’ differed from ‘non-exchangers’ in two significant ways. Gender of respondents (χ^2= 7.330) and their social network type (χ^2= 121.371) were significantly

associated with whether older adults participated in exchanges. Compared to exchangers, non-exchangers were significantly more likely to be male and to have small *Spouse focused* social networks. Exchangers were more likely to be female and to have large *Diverse local community* social networks. These findings provide further evidence that individuals with restricted social networks are at increased risk for not receiving or providing support.

Table 17: Respondent characteristics by participation in exchanges

Respondent Characteristic	Receive and/or provide tasks (n=1271) (96.9%) (%)	Neither receive nor provide tasks (n=41) (3.1%) (%)
Gender**		
Female	50.7[a]	29.3[a]
Marital status		
Married	77.3	85.4
Age		
65-74	50.2	48.8
75+	49.8	51.2
Education		
Elementary school or less	30.2	23.7
Secondary school	40.9	47.4
Postsecondary or higher	29.0	28.9
Enough money to take care of little extras		
Yes	88.2	87.5
Perceived health		
Poor or fair	24.9	12.2
Good	30.2	39.0
Very good or excellent	44.9	48.8
Time in the community		
1-5 years	8.2	14.6
6-25 years	37.8	41.5
26 or more years	54.0	43.9
Social network type***		
1: Older friends and neighbours	22.3	14.6
2: Diverse local community	27.0[b]	0.0[b]
3: Spouse focused	2.0[c]	29.3[c]
4: Children at a distance	33.3	48.8
5: Diverse outside community	15.5	7.3

, a = p≤.01 *, b, c = p≤.001

The vast majority of rural older adults did participate in exchanges with family members and friends. To learn more about the exchange patterns

experienced by rural older adults, the number of tasks received and provided was examined. Tasks received included a count of how many of the 13 instrumental, informational and emotional tasks the participant received over the past month. Analyses revealed that participants received 0-11 tasks over the past month (mean = 2.58; median= 2.00). Reflecting the mean and median, this variable was divided into low receipt of tasks (0-2 tasks) and high receipt of tasks (3-13 tasks).

Tasks provided included a count of how many of the 14 instrumental, emotional and informational tasks the participant provided to family and friends over the past month. Analyses revealed that participants provided 0-11 tasks (mean= 3.27; median= 3.00). Taking into consideration the mean, median, and conceptual interest in balance of exchanges, this variable was recoded into low provision of tasks (0-2 tasks) and high provision of tasks (3-14 tasks). These groups are mutually exclusive, therefore those who provided and/or received tasks were grouped into four categories: 1) participants who receive few tasks while providing a high number (30.4%); 2) receive and provide a high number of tasks (27.9%); 3) receive and provide a low number of tasks (25.1%); and 4) receive a high number of tasks and provide few (16.5%). These proportions indicate the majority of seniors surveyed (58.3%) had exchange patterns where they provided a high number of tasks and services to their family members, friends and neighbours.

Table 18 provides information on the background characteristics of older adults and their association with each exchange pattern. Gender of the respondent (χ^2= 48.643), marital status (χ^2= 17.160), age (χ^2= 20.099), education (χ^2= 22.073), perceived health (χ^2= 15.034), social network type (χ^2= 1.620E2), and support network type (χ^2= 43.808) were all significantly associated with exchange patterns.

Theoretical arguments and empirical findings suggest that balanced exchange patterns, along with patterns in which older adults are high providers of tasks, can attract future support. Gender is significant in determining whether an older adult is likely to have high or low balanced exchanges. Older adults who had *high receive high provide* exchange patterns were most likely female

(65.1%), whereas those with *low receive low provide* exchange patterns were most likely male (59.9%). As older women in this sample were more likely to be married than older women in rural Canada, it is possible that these high exchanges reflect exchanges with partners. However, these differences may also reflect preferences for number of exchanges.

The personal characteristics of older adults with unbalanced exchanges showed the greatest contrasts compared to other exchange patterns. Seniors who had the *low receive high provide* pattern were the most likely to be married (83.7%), younger (55.3%), most educated, and in very good or excellent health (50.1%). These characteristics suggest fewer needs for support, and a greater ability to maintain networks by providing support to others. In contrast, those who had the *high receive low provide* pattern were least likely to be married (69.4%), and most likely to be older (62.4%), less educated, and to have poor or fair health (30.1%). These characteristics indicate a greater need for support, with perhaps less ability to reciprocate.

Findings on personal characteristics indicate that, despite the association between poor perceived health and over-benefiting (i.e. receiving more than is provided), individuals with poor health are also represented in *low receive low provide* patterns. It may be that some frail older adults are willing to accept help despite the unbalanced exchange, while others may avoid entering relationships when they do not have the resources to reciprocate.

Associations were also found between network types and exchange patterns. Compared with other exchange patterns, seniors with *low receive low provide* exchange patterns had the highest proportion of *Older friends and neighbours, Spouse focused,* and *Children at a distance* social networks. These social networks were the smallest in size, and indicate the fewest social connections. As a result, individuals with low exchanges may not be receiving all the support they need. This is further evidenced by the finding that approximately a quarter of seniors (26.8%) with *low receive low provide* exchange patterns received no support at all, though providing some support to others.

Seniors with *high receive low provide* exchange patterns had a relatively high proportion of *Children at a distance* social networks (41.1%). They also had a relatively high proportion of *Female children* (22%) and *Diverse outside community* (32.1%) support networks. A high proportion of children are found in these network types, suggesting that older adults with children are more likely to over-benefit, receiving more support than they provide.

High receive high provide exchange patterns were significantly associated with diverse social networks. Almost 40% of individuals with this pattern had *Diverse local community* social networks, while another quarter had *Diverse outside community* social networks. This trend was also found with support networks, with approximately one quarter having *Diverse proximate* support networks, while the largest proportion (38.9%) had *Diverse outside community* support networks. High levels of exchanges may result from having connections, and thereby having opportunities to exchange. High levels of exchanges may also help to maintain connections with a mix of potential and actual supporters.

Finally, approximately one fifth of seniors with *low receive high provide* exchange patterns did not receive any tasks or services, instead providing support to others. It is not clear which social network types would lead to this exchange pattern because individuals had a mix of social network types. However, as shown in the next section, specific characteristics of social networks can provide further insight into this connection.

Table 18: Respondent characteristics by exchange patterns

Respondent Characteristic	Low receive, low provide n=319 (25.1%) (%)	High receive, low provide n=210 (16.5%) (%)	High receive, high provide n=355 (27.9%) (%)	Low receive, high provide n=387 (30.4%) (%)
Gender* **				
Female	40.1[ab]	52.9[ac]	65.1[bcd]	45.2[d]
Marital status* **				
Married	75.9[e]	69.4[f]	76.3[g]	83.7[efg]
Age* **				
65-74	48.0[h]	37.6[hij]	54.1[i]	55.3[j]
75+	52.0	62.4	45.9	44.7
Education* **				
Elementary school or less	30.5[k]	39.4[klm]	29.5[l]	25.5[m]
Secondary school	44.3	39.4	40.6	39.0
Postsecondary or higher	25.2[n]	21.2[op]	29.8[o]	35.6[np]
Enough money to take care of little extras				
Yes	89.5	87.5	86.4	89.2
Perceived health*				
Poor or fair	29.8[q]	30.1[r]	23.2	19.7[qr]
Good	29.5	30.6	30.8	30.1
Very good or excellent	40.8[s]	39.3[t]	46.0	50.1[st]
Time in the community				
1-5 years	10.3	6.7	6.8	8.5
6-25 years	37.0	32.5	38.4	40.8
26 or more years	52.7	60.8	54.8	50.6
Social network type* **				
1: Older friends and neighbours	26.8[u]	21.5[v]	14.6[uvw]	26.1[w]
2: Diverse local community	12.0[xyz]	25.4[xA]	39.7[yAB]	28.4[zB]
3: Spouse focused	4.7[CD]	2.9[E]	0.0[CEF]	1.0[DF]
4: Children at a distance	46.7[GH]	41.1[IJ]	20.0[GIK]	30.2[HJK]
5: Diverse outside community	9.8[L]	9.1[M]	25.6[LMN]	14.2[N]
Support network type* **				
1: Diverse proximate	12.6[O]	18.2[P]	25.6[OPQ]	14.5[Q]
2: Male non-kin	17.4	18.2	16.2	16.4

3: Spouse focused	8.1	9.6	5.1	8.4
4: Female children	19.4	22.0^{R}	14.2^{R}	15.6
5: Diverse outside community	15.8^{STU}	32.1^{S}	38.9^{TV}	24.5^{UV}
No support network	26.8^{WX}	0.0^{WY}	0.0^{XZ}	20.6^{YZ}

*, g, h, k, l, o, s, t, v, E, F, P, R = p≤.05 a, c, e, n, q, r, B, D, J, K, U = p≤.01 ***, b, d, f, i, j, m, p, u, w, x, y, z, A, C, G, H, I, L, M, N, O, Q, S, T, V, W, X, Y, Z = p≤.001

4b) *How is social network composition associated with exchange patterns?*

Network types and characteristics of older adults have been found to be significantly associated with exchange patterns. To find out what personal and network characteristics predict exchange patterns, a multinomial regression was run. The characteristics of social networks were the focus, as social networks are necessary for the exchange of tasks and services, and all exchangers had social networks.

Although there is not one exchange pattern that is ideal for all seniors, the *high receive high provide* exchange pattern is considered advantageous because tasks and services are provided and received. Table 19 shows that what predicts whether a senior falls into the *high receive high provide* exchange pattern differs according to the exchange pattern with which it is compared. When comparing the *low receive low provide* pattern with the *high receive, high provide* pattern, seniors with low balanced exchanges were more likely to be males with fewer social network members, and a higher proportion of spouses, children, and other family members in their networks. They also had fewer social network members living in the same community, which may limit their exchanges. On the other hand, those with high balanced exchanges had a higher proportion of friends and neighbours. Reciprocity is particularly important for the maintenance of friendships, suggesting more frequent exchanges may be necessary.

When comparing the *high receive low provide* pattern with the *high receive high provide* pattern, seniors who received high amounts of support while providing less were older in age. They had smaller social networks, a smaller proportion of females, and a higher proportion of children and other family members than those with high balanced exchanges. Perhaps this exchange pattern is unbalanced because children and other family members are repaying these seniors for the support that was previously provided to them, making reciprocation unnecessary.

Finally, when comparing the *low receive high provide* pattern with the *high receive high provide* pattern, seniors who provided more than they received in the previous month were more likely male, younger in age, more educated, and had a smaller social network and a higher proportion of older network members. Older adults who are net providers seem to have the skills to provide tasks, and also social network members who may require more assistance because of their age.

Together, these findings highlight the importance of social connections to the exchange of support. Older adults who had high balanced exchanges had significantly larger social networks than seniors with other exchange patterns. However, relationship, gender, age, and proximity compositions of social networks and the gender, age, and education of seniors differentiated some exchange patterns. These variables suggest that it is not enough to count the number of social network members to know whether support will happen. Characteristics of older adults and particularly their social networks are important determinants of the patterns of help given and received.

Table 19: Parameter estimates using multinomial logistic regression

Exchange pattern	Background characteristic	B	Std. Error	Wald	Exp(B)
1	**Gender**				
Low receive	Male	.981***	.192	26.117	2.667
low provide	**Age**	-.015	.017	.807	.985
	Education				
Vs.	Secondary school	.266	.210	1.603	.766
	Postsecondary	.059	.237	.062	.943
High	*(ref: elementary)*				
receive high	**Perceived health**				
provide	Good health	-.184	.235	.609	1.202
	Excellent health	-.144	.220	.431	1.155
	(ref: poor/fair health)				
	Time in the community	.001	.004	.134	1.001
	Network size	-.284***	.029	98.395	.753
	Proportion:				
	Spouse	4.147*	1.682	6.075	63.215
	Children	1.939**	.669	8.412	6.952
	Other family	2.687***	.606	19.666	14.681
	(ref: friends/neighbours)				
	Female	-.725	.516	1.970	.484
	Under 45	-.933	.641	2.124	.393
	45 to 64	-.359	.563	.407	.698
	(ref: 65 and over)				
	Same building	-1.229	1.139	1.164	.293
	Same community	-1.466***	.432	11.518	.231
	(ref:outside community)				
2	**Gender**				
High	Male	.344	.210	2.698	1.411
receive low	**Age**	.038*	.018	4.412	1.039
provide	**Education**				
	Secondary school	-.064	.222	.082	1.066
Vs.	Postsecondary	-.242	.257	.890	1.274
	(ref: elementary)				
High	**Perceived health**				
receive high	Good health	-.136	.252	.291	1.146
provide	Excellent health	-.144	.237	.371	1.155
	(ref: poor/fair health)				
	Time in the community	.000	.004	.001	1.000
	Network size	-.183***	.029	39.694	.833
	Proportion:				
	Spouse	2.167	1.866	1.350	8.734
	Children	2.681***	.714	14.078	14.596
	Other family	2.925***	.665	19.356	18.632
	(ref: friends/neighbours)				

	Female	-1.273*	.565	5.087	.280
	Under 45	-.618	.713	.749	.539
	45 to 64	.847	.617	1.887	2.333
	(ref: 65 and over)				
	Same building	.147	1.246	.014	1.158
	Same community	.179	.467	.147	1.196
	(ref:outside community)				
4	**Gender**				
Low receive	Male	.880***	.176	24.968	2.411
high provide	**Age**	-.048**	.015	10.036	.953
	Education				
Vs.	Secondary school	.160	.195	.680	.852
	Postsecondary	.422*	.210	4.038	.656
High	*(ref: elementary)*				
receive high	**Perceived health**				
provide	Good health	.102	.220	.217	.903
	Excellent health	.229	.204	1.250	.796
	(ref: poor/fair health)				
	Time in the community	.000	.004	.060	.999
	Network size	-.090***	.022	17.500	.914
	Proportion:				
	Spouse	2.632	1.628	2.613	13.899
	Children	.446	.630	.502	1.562
	Other family	1.084	.556	3.805	2.957
	(ref: friends/neighbours)				
	Female	-.748	.492	2.307	.473
	Under 45	-1.381*	.598	5.330	.251
	45 to 64	-.748	.517	2.094	.473
	(ref: 65 and over)				
	Same building	.208	1.063	.038	1.232
	Same community	-.404	.402	1.010	.668
	(ref:outside community)				

Nagelkerke Pseudo R^2: .295 -2 Log likelihood: 2.999E3

*p≤ .05 **p≤.01 ***p≤.001

CHAPTER 6: DISCUSSION

The first section of this chapter addresses variation in the social and support networks of rural older adults, the interface of these networks, tasks received from support networks, and exchange patterns. Next, background characteristics of older adults are discussed, and how individual characteristics are associated with social support resources. The last section of this chapter discusses limitations and areas for future research.

Social Networks

One of the primary objectives of this study was to understand how connections to family and friends vary among rural older adults. It was argued in chapter three that social networks are an important determinant of the potential for social support. Individuals who are connected to a large network of family and friends have good potential for assistance, while older adults who have few connections may have difficulty securing support and staying in their rural communities (Wenger & Keating, 2008). Evidence of variation in social connections, and in social support potential, has been created in this study.

This project addressed the extent to which heterogeneity existed in the social networks of seniors residing in rural Canada. Consistent with previous research, family-focused, friend-focused, restricted, and diverse social network types emerged (i.e. Fiori et al., 2006; Wenger & Keating, 2008). *Children at a distance* networks were family-focused, having an increased presence of close family. *Older friends and neighbours* networks were characterized by an increased presence of non-kin. *Spouse focused* social networks were restricted networks which included few potential supporters. These networks may reflect seniors that are isolated in their communities, or couples who have kept to themselves through their lives. Some seniors with *Spouse focused* social networks might also be caregivers to their spouse. If their spouse has a long-term health problem, their social life may be curtailed by the presence of that spouse. Two large diverse networks, *Diverse local community* and *Diverse outside community,* were identified accounting for 41% of respondents. The presence of

two diverse network types may be unique to rural communities; reflecting local attitudes, values and beliefs (Atkin, 2003). Older adults with these networks may reside in localities where residents are integrated and where ‘everyone knows everyone else’.

What is learned from these findings is that with the exception of the *Spouse focused* social network, most rural seniors had social network types that were large in size and included a mix of family members and non-kin, men and women, evidence that social network types are relatively heterogeneous in terms of network members’ demographic characteristics (Dobbs et al., 2004). However, it is also evident that when social network types are compared, they differ from each other. For example, while most seniors had network members aged 65 and older, approximately a quarter of the seniors surveyed had social network types that were dominated by older network members. These social networks support the theory that older adults bring their convoys with them over time (Kahn & Antonucci, 1980), though friends may also be made at various stages in life. Same generation connections can be important in day-to-day life, as age peers can have an understanding of what one is currently dealing with. But to the extent that chronic illnesses tend to accumulate with age, same age peers may not be in a position to increase their support as an individual’s needs for help increase. Furthermore, almost half of the older adults had social network types that included mainly geographically distant social connections (*Children at a distance, Diverse outside community*). While people may have friends and family members who always have lived at a distance, this finding likely evidences the impact of migration on the social networks of some rural older adults. This can result from the outmigration of young people for work or education; or older people moving to rural communities on retirement, away from family and friends (Bryant & Joseph, 2001; Wenger, 2001).

The current study has provided evidence that differences among social network types, such as network size and proximity of network members, can influence an older persons potential for social support. Approximately 29% of older adults who did not participate in exchanges had small *Spouse focused* social networks, evidencing the reduced potential for support that accompanies

this restricted social network type. In addition, almost half of seniors who did not participate in exchanges had *Children at a distance* social networks. These networks were characterized by geographically distant social connections, providing evidence that distance to family and friends does influence an older adults' social support potential. Distance can impact the frequency of visits with family and friends during which support may be exchanged; weather and transportation may also become significant barriers to exchanges with distant members (Cloutier-Fisher & Kobayashi, 2009). Having local social connections can increase the chances of recruiting social network members into support networks. According to prior research, having network members living in close proximity can also increase the perception of social connectedness (Ashida & Heaney, 2008).

The structure of social networks informs our understanding of whether family connections of older adults are primarily "beanpole" connections to children and grandchildren. The beanpole family is defined as "a family structure in which the shape is long and thin, with more family generations alive but with fewer members in each generation" (Bengtson, 2001, 5). This structure provides the potential for resources to flow across generations. Findings revealed that on average, social networks of older adults included children (31%) and other family members (23%), which include grandchildren. This provides some evidence for the presence of beanpole families. However "other family members" may also include same generation members such as siblings and siblings-in-law, indicating that support potential is also present in horizontal relationships. The average composition of older adults' support networks suggests that resources flow in different directions. Indeed, high proportions of children were found in the support networks of older adults, whereas "other family" were less prevalent. This absence may be explained by the fact that many older adults are providers of practical, emotional, and financial support to younger generations of family members (Bengtson, 2001; Dunning, 2006).This is particularly true of older adults who are married, younger, educated, and in very good or excellent health, which are characteristics associated with being net providers of tasks to family and friends.

Support Networks

While social networks provide an indication of potential support, support networks comprise those who provide support. Rural cultural values, including helpfulness and neighbourliness (Scharf & Barlam, 2008), suggest that most rural seniors receive tasks and services from a variety of family, friends and neighbours. By identifying the support network types that exist in rural Canada this project has helped to discern the extent to which small town values translate into support for seniors.

Older adults' support networks were narrower and more focused than social networks, indicating that having social ties in communities is not the same as being supported. Support networks were considerably smaller in size than social networks, with spouses, children, those who are middle aged, and living locally being more strongly represented. These structural characteristics are consistent with previous literature on support networks which indicate that close family members, including spouses and children, are the most frequent providers of support (Shenk & Christiansen, 2009; Wenger, 1997). Thus it is middle-aged, local, close family members that are most likely to be recruited from the social network into the support network. However, in practice, these individuals are not always available, able and willing to provide the support needed. Hence there is a variety of support network types in rural Canada.

Although it was found that social network types differed from each other, differences among support network types were more pronounced. For example *Male non-kin* support networks were strongly characterized by the presence of friends and neighbours (73%); *Female children* support networks had a strong presence of children (77%); *Diverse proximate* networks were mostly female (81%); *Male non-kin* support networks were strongly comprised of men (70%). Although there were some distinctions among social network types, they were not as strong as distinctions found among support network types. What is learned from this comparison is that irrespective of the heterogeneous mix of family and friends found in social networks, specific individuals are called upon for help if and when it is needed.

Identifying support network types has enabled a comparison between the support network types found in rural Canada with the support networks found in rural Britain. When compared, it is apparent that support network types in rural Canada share some similarities with the five support network types that emerged in rural Wales (Wenger, 1996).The *Female children* support network type was similar to Wenger's local family-dependent type, except not all network members were local. These networks both consist of a small and homogenous network of close family, with a few friends and neighbours. Secondly, the *Diverse proximate* type was similar to the locally integrated type, except again, not all network members were local. These larger networks include family, neighbours, and friends. Third, the *Male non-kin* network type reflects the local self-contained network in the British sample. These are small networks where there is less involvement with close kin, and a reliance mainly on neighbours. Fourth, the *Diverse outside community* network type is somewhat similar to Wenger's wider-community-focused type. These networks reflect an absence of local kin, active relationships with distant kin (particularly children), and are friendship-centred. Finally, the *Spouse focused* network type shares some similarities with Wenger's private restricted support network type, which is also characterized by few ties.

Comparing these two rural support network typologies has highlighted a significant difference between rural Wales and rural Canada. Canadian support networks were more often characterized by at least some members living at a distance, which is a feature less prominent in the Welsh sample. This finding reflects the greater geographic distances that exist among family members and friends in Canada. Specifically, one support network type was dominated by members who live at a distance (*Diverse outside community*), while the composition of two other types may have been impacted by geographic distances to family. For example, in her paper based on one community in the South Island of New Zealand, Keeling (2001) found that where there are great distances to family members, older people employ a number of ways to enhance their social support. For example, they may exchange more with extended kin, or may form relationships with kin of friends or friends of kin. These relationships are evidenced in the *Diverse proximate* support networks, which were comprised

mainly of non-kin and other family members, and *Male non-kin* support networks which were predominately comprised of friends and neighbours. These seniors may have compensated for a lack of proximate kin by recruiting other people into their support networks. This provides evidence for the increasing dependence of adults on friends and neighbours for support (Gray, 2009).

Tasks and Services Received

One of the objectives of this study was to explore variation in the social support received from support networks. Findings reveal that support network types made a significant difference to the number of tasks received by the older person. While older adults with larger *Diverse outside community* and *Diverse proximate* networks received the highest average number of tasks, seniors with restricted *Spouse focused* support networks received the fewest. The more people to whom seniors have access, the more likely they are to have someone willing and able to provide specific tasks and services.

Married individuals have long been thought to be supported by their spouses, with emotional and instrumental support reducing the need for formal services (Nihtila & Martikainen, 2008). Although this may be true for many couples, the current study has challenged the universality of this assumption. It is possible that tasks and services received from spouses are not recognized or acknowledged as support (Dobbs et al., 2004; Kim et al., 2000), or that some of the tasks asked about the survey are not provided by a spouse. Furthermore, one person can only do so much, especially when that person is also an older adult who may have health problems of their own. This provides an additional explanation for the lower number of tasks received from *Spouse focused* support networks.

With the exception of emotional support, support network types did not influence the types of tasks received by older adults in rural Canada. Considering four of the five support network types were gendered, these findings indicate that in rural areas network members may provide a broad range of tasks and services. Typically females provide more emotional support and housework,

while males provide more instrumental assistance with tasks such as transportation, household arrangements or outdoor work (Dobbs et al., 2004; Wenger, 1997). Yet, these differences were not found when comparing female and male dominated networks. The breadth of tasks provided by support network members may reflect the necessity to provide a greater variety of tasks in the context of reduced formal services (Joseph & Cloutier-Fisher, 2005).

The tasks most commonly provided by support network members may reflect the independence and self-reliance characteristic of many rural residents (Arbuthnot et al., 2007; Clark, 2007). High proportions of seniors across all network types received support with housework, which included both indoor and outdoor work. In a survey of older adults in rural Britain, it was revealed that almost 17% of households surveyed received support from social services while others employed domestic help privately. When the latter occurred, it was at a low level, such as receiving help with housework once every two weeks. The older adults surveyed stated they wanted to be independent, but noted that help with housework and minor repairs was appreciated (Manthorpe et al., 2004). Support with housework is a resource that helps with day-to-day living without jeopardizing a sense of independence, which may explain why rural seniors with support networks commonly receive this type of task.

Older adults with *Spouse focused* support networks were the least likely to receive emotional support. This challenges previous findings which identify spouses and children as leading providers of instrumental and emotional support (i.e. Broese van Groenou & van Tilburg, 1997). However these findings are congruent with research on older adults and loneliness. In their longitudinal research on changes in loneliness over time, Dykstra and colleagues (2005) found that those living with a partner showed a greater increase in loneliness over time than those who remained single. They hypothesized this is because relationships between spouses change over time and “the partner relationship might not offer the same kind of protection against loneliness at advanced ages as it does earlier in the life course” (p. 742). Dykstra and colleagues explain that relationships can undergo changes over time, such as the health status of one partner. For example, an older woman may become the caregiver for her spouse,

a person who was once her source of support. Anxieties over her partner's health and the demands of caregiving may alter their relationship. Thus, it cannot be assumed that emotional support is intrinsically part of partner relationships.

Exchange Patterns

One of the fundamental questions raised in earlier chapters was whether rural seniors are predominantly receivers of support, or whether they are also active contributors. The literature on social support for older adults is quite distinct from that on caregiving or on providing support (Liang et al., 2001). Therefore it is difficult to determine the extent to which older adults in rural areas are mainly people in need of support, or whether they are contributors of assistance to other community members. This project is a step toward integrating these different bodies of work.

This project has filled a gap in knowledge by providing information on the resources rural older adults provide to others. The vast majority of respondents reported participating in exchanges, with many providing a high number of tasks and services to their family members, friends and neighbours. This reinforces images of helpful and neighbourly rural residents, while also demonstrating how many rural seniors build and maintain their social networks. These connections increase the likelihood of having people available and willing to provide them with support, if and when it is needed in the future.

The image of self-reliant rural people who value their independence is also reinforced by the finding that the *high receive low provide* exchange pattern was the least prevalent exchange pattern. Only about 17% of older adults who participated in exchanges received more tasks and services than they provided. Furthermore, those who did receive high amounts of support while providing less were older in age, suggesting they had greater needs for tasks and services. Rural seniors may maintain their independence for as long as possible before asking for help, which is consistent with previous rural research (Keating et al., 2001; Lau & Morse, 2008).

What is learned from these findings is that the majority of rural seniors are active in providing support to others. They either balance their exchanges, or bank their support for future reciprocation (Shaw et al., 2007). These exchange patterns have been linked to high life satisfaction and well-being (i.e. Lowenstein et al., 2007). Despite the prevalence of high providers in rural communities, there is a subset of older adults who are net receivers. It can be speculated that they may have some trouble building new relationships and attracting future support if they are unable to give back to others.

Background Characteristics and Variation in Social Support Resources

A major contribution of this research is that it explores diversity among older adults and how this diversity is associated with older adults' social support resources. As it was argued in chapter one "it is important to know what exists before recommending how support can be supplemented. It is also important to know who needs help, in order to target services appropriately." In this section, findings related to subgroups of seniors who have different social connections, supportive relationships, and exchange patterns are discussed. Older adults who are well connected and supported in day-to-day life, those who are receiving adequate support but may need further help in the future, and individuals who are at risk because of lack of social and supportive relationships are identified.

Who is Well Connected and Supported in Day-to-day Life?

In chapter three it was hypothesized that seniors who are well connected and supported are those with larger social and support networks who receive a variety of tasks. It was also hypothesized that they are individuals who participate in reciprocal relationships, by both receiving and providing tasks.

What is learned from this study is that there are subgroups of women and men who are well connected and supported in their day-to-day lives. However, evidence suggests they may secure support in different ways. Women were more likely to have diverse social and support networks than men. A high proportion of women had *Diverse outside community* social networks, and they were also

highly represented by *Diverse proximate* support networks. Compared with men, these findings indicate that rural women have larger social and support networks, which is consistent with prior research (Cloutier-Fisher & Kobayashi, 2009). Women were also more likely to have *high receive high provide* exchange patterns. It is possible that this pattern reflects exchanges with partners, as many women in the sample were married.

Men were strongly represented in non-kin social and support networks. Compared to women, men were more likely to have *Older friends and neighbours* social networks, and *Male non-kin* support networks. These networks are smaller in size and comprised mainly of local non-kin connections. Males were also most likely to have *low receive low provide* exchange patterns, suggesting older men may prefer to exchange a fewer number of tasks, while still valuing balance in relationships. This is consistent with findings from previous gender studies that found older men exchange less support than older women, but that men are more satisfied with their exchanges (Shaw et al., 2007). However, it is possible that some men have low balanced exchanges because they have fewer opportunities to participate in exchanges. Rural older adults with low exchanges may be marginalized (Eales et al., 2006) or socially excluded (Scharf & Barlam, 2008) and have barriers to accessing further social resources. A limitation of the current study is that data on satisfaction with current exchange patterns were unavailable.

These findings add to the growing body of knowledge about how older women and men interact differently with friends and family. Women's exchange patterns resemble those of 'community active seniors' described by Eales and colleagues (2006, 2008) as older adults who have extensive involvement with family, friends and neighbours; providing support and receiving it in return. They get a great sense of satisfaction from contributing to their rural communities, and are fortunate to have the time, money and skills, to participate in exchanges. Older men's exchange patterns suggest they may have higher degrees of stoicism; exchanging few tasks and services with family and friends. Stoic seniors are reserved, independent and practical, drawing on assistance from others only when necessary (Eales et al., 2008; Hayes, 2006). When evaluating

who is well connected and supported, gender of the older adult should be taken into account when assessing social support resources.

Who are at Risk Because of Lack of Social and Supportive Relationships?

Older adults who might be at risk of not receiving the support they need are those with restricted social and support networks who receive a narrow range of tasks. In this study, more has been learned about the characteristics of such older adults.

From the perspective of social networks, there is a small subgroup of older married seniors who may need the most help in connecting to potential supporters. They have small social networks, which by choice or circumstance, put them at risk for not having people to approach for assistance if and when it is needed. Older seniors, aged 75 and older, were strongly represented in *Spouse focused* social networks. Although changes could not be tracked over time, it is possible that with age some of these individuals have experienced a reduction in their social connections. Prior research has found with age, older adults focus more on emotionally meaningful relationships with close family and friends than other peripheral relationships (Fung et al., 2008). Additional authors argue that smaller networks are not always by choice. As found in this study, many seniors have same generation family and peers in their social networks. Over time, the increasing frailty and/or death of these members may reduce their number of potential supporters (Duner & Nordstrom, 2007; Gray, 2009). While some older adults form new connections over time, by forming new partnerships after widowhood or divorce, engaging in social groups, or increasing interactions with family after the birth of grandchildren, others may experience a decline in network size (Dykstra et al., 2005). Seniors often have cross-generational relationships with family members and non-kin relationships with peers (Gray, 2009). Findings reveal fewer peers in the support networks of older seniors compared with younger seniors. Older seniors were most strongly represented in *Female children* support networks, confirming that with age, older adults may receive much of their support from younger family members.

Married seniors were found to be associated with restricted social and support networks. What is learned from these findings is that some married seniors may be isolated from family and friends, relying mainly on their spouses for their social connections and support. These couples might exchange tasks and services predominantly with their spouse, limiting the number of supporters in their networks. This network type may result from a lifelong pattern of having few supportive interactions outside of the marital unit. While sufficient at younger ages, these couples may encounter difficulties meeting all of each other's support needs as they grow older. A high proportion of individuals with *Spouse focused* support networks were found to have adequate income. An alternative explanation for the small support networks of some married seniors is that they may purchase the services they require, reducing their support networks. They may pay a local teenager to mow the lawn, or hire someone to help with housekeeping. Thus while some married seniors may be socially isolated, others may have the financial resources to secure needed tasks and services.

Who is Receiving Adequate Support But May Need Further Help in the Future?

The data set used in this study is cross-sectional, therefore cannot determine who *will* experience a decline in social connections and support over time. However, it is known at the time the data were collected whether exchanges were balanced. Older adults who *might be at risk* in the future are individuals who have unbalanced exchanges, by receiving more than they provide, or in some circumstances by providing more tasks than they receive (Sabatelli & Shehan, 1993). In this study, more has been learned about the characteristics of older adults who might be at risk of discontinuing current relationships.

Older seniors may have the least sustainable exchanges since they are high receivers of tasks and services, while they provide few tasks in return. From an exchange theory perspective, older seniors may have a greater need for support, with perhaps less ability to reciprocate. Dowd (1975) argued that with age, individuals often experience a decrease in exchange commodities. That is,

older adults may not have the resources to exchange, or their resources may be undervalued. This is particularly true for the very old (Akiyama, Antonucci, Campbell, 2009). According to the exchange literature unbalanced exchanges are not likely to continue. But is this really the case for older seniors? Findings from this study are that adults aged 75 and older were strongly represented by *Female children* support networks, which are close-kin based. In chapter two, the idea of banked support was highlighted. It is possible that older seniors are being paid back for the support they previously provided to their family members. Further research is needed to investigate the role of lifetime reciprocity in assessing the future support for these older seniors.

Older adults who were widowed, single, or divorced were also likely to have the *high receive low provide* exchange pattern. As many widowed, single, or divorced seniors have friend-based social and support networks, reciprocation is particularly important for them to continue their relationships. This is because relationships with non-kin are voluntary, whereas many kin relationships involve obligation (Krause & Borawski-Clark, 1995). Seniors who are unpartnered may currently be receiving the support they need, but may be a group at risk in the future if they are unable to reciprocate what they are currently receiving. This is because network members may stop providing support because they are not receiving any tasks in return (Gray, 2009). Or, the older person may feel they are over-benefitting which is associated with increased distress. When an individual receives more support than they can provide, they may end relationships because they cannot reciprocate (Liang et al., 2001). This raises the question, are current unbalanced exchanges representative of the ongoing exchange patterns of single, widowed or divorced seniors? Although this cannot be answered with the current cross-sectional study, prior longitudinal research has shown that the imbalance in exchanges may be temporary, and will return to balance once the crisis is controlled (Guiaux et al., 2007). Specific life circumstances can therefore affect the degree to which current exchanges are considered reciprocal and fair.

It is possible that with the greying of rural communities (McPherson, 2004), tasks are provided to individuals out of necessity. In this case older adults

may provide extra tasks and services to compensate for the absence of younger helpers (Skinner & Joseph, 2007). This “compulsory volunteerism” (i.e. Eales et al., 2008) may reduce the capacity of older people to support themselves (Schroder-Butterfill & Marianti, 2006) suggesting this exchange pattern may not last long-term. The current study has added insight to the circumstances under which seniors provide a high number of tasks while receiving few. On the one hand, seniors who had the *low receive high provide* exchange pattern were most likely to be married, younger, educated, and in very good or excellent health. These characteristics suggest fewer needs for support, and a greater ability to maintain networks by providing support to others. Despite current unbalance, this exchange pattern may be satisfying (Lowenstein et al., 2007). On the other hand, it was also found that approximately a fifth of seniors who were net providers of support did not receive any tasks or services, instead providing support to others. These individuals may be banking support for future reciprocation, or they may be the compulsory volunteers in their communities. When more support is provided than received, individuals may feel taken advantage of and may discontinue relationships. Are older people high providers of support because they feel obligated? This question has implications for the sustainability of supportive relationships and could be a key feature of future rural research.

In Summary - Key Findings

In summary, there are four key findings and messages that can be taken from this research.

1. There is variation in the connections older adults have to family and friends.

There has been little known about the extent of variation among rural seniors in their connections to potential supporters. The current study has identified five distinct social network types, illustrating considerable variation.

While most older people had social network types comprising a mix of kin and non-kin, men and women, differences were evident in the age and proximity

of network members and the size of social networks. Regarding the latter, while some older adults had social network types averaging two people, others had social networks averaging 17. This is significant because who is present in social networks sets limits on who can be recruited into the support network. Individuals with 17 network members have a wide variety of people that they may draw on for support, whereas older adults with two social connections have few people to approach for all their support needs.

There is a small subgroup of seniors who have few people in place to provide them with support. Seniors with *Spouse focused* social networks may be socially isolated, by choice or circumstance, and have difficulty connecting with potential supporters. They may also include seniors who have spouses with long-term health problems. These seniors may have ceased exchanges with others to focus on care of their spouse. This is worrisome as the small size of their social networks suggests they have few people to turn to if they themselves require support.

2. Who gets recruited from social networks into support networks varies.

Seniors can be well-connected socially in a community, but a unique finding from this study is that this does not mean they are receiving support. On average, the social networks in the study comprised 10 people, but the support networks only averaged three people.

Spouses, children, middle-aged and local social network members are most likely to be recruited into support networks. This information is not new to family scholars. However, this study builds on past research by evidencing that there are no significant differences associated with the gender of social and support network members. Older adults are just as likely to have social ties to men and women as to they are to receive support from them.

Recruitment into support networks is not straightforward. Who is recruited depends on who is available, able and willing to provide support to the older person. The obvious examples are that spouses are not available for seniors who

are single, widowed or divorced. Consequently, these individuals are more likely to recruit friends and neighbours into their networks. Similarly, as a consequence of losing same aged peers, older seniors may exchange more with younger family members. This is evidenced by seniors aged 75 and older being most likely to have *Female children* support networks.

For many rural seniors, proximity to family influences recruitment. When family members live at a distance, local members may be recruited into support networks. This was confirmed in the present rural study, as local neighbours and friends had a strong presence in two of the five support network types. However, a finding unique to rural settings is that distance does not necessarily preclude individuals from supporting seniors. Indeed, one support network type comprised predominantly network members residing at a distance.

These findings illustrate diversity in from whom social support is received. The question is, when it is no longer support but care that is needed are friends and neighbours able and willing to provide care? There is some evidence that non-kin are present in the care networks of Canadian seniors. Analysis of Statistics Canada's 2002 General Social Survey on aging and social support found that care networks comprising higher proportions of non-kin provide fewer tasks, fewer hours of care, and provide care tasks for a shorter time than networks comprising close kin (Yoshino, 2006). Perhaps receiving support from neighbours and friends is a temporary solution when there is an absence of local kin, but these networks do not represent a long-term commitment to the support and care of rural seniors.

3. Not everyone receives support.

Findings reveal that 15 per cent of seniors who had a social network of friends and family reported receiving no support with any of the tasks asked about in the survey, while nine per cent of seniors who received support had few people who provided help with tasks like housework, shopping and transportation to medical appointments. No measure of need was available in the survey consequently conclusions could not be made on the extent to which these

seniors were in need of support. However it is likely that while some of that group may not need support and in fact are providing help to others, some seniors may have only one or two people to rely on.

With government cuts in formal services and the closure of some rural hospitals, a lack of local support is worrisome for some older adults living in rural areas. Current policy for seniors' services relies heavily on assumptions of family support, but this study's findings challenge their availability. On average, 34% of support network members were non-kin, suggesting an increasing dependence on friends and neighbours for support. Furthermore, two of five support network types identified comprised predominately friends and neighbours suggesting that not all rural seniors have family available to help with day-to-day support.

It is important that support is in place so that older adults can have the option of remaining in their communities, if they so choose. If social support is not available and they are unable to manage many of their everyday needs, they may need to move away to obtain formal services or be closer to family members, leaving behind familiar surroundings and people; essential components of belonging and well-being. Day-to-day support can also add to quality of life and may evolve into care if needed. If older adults have few people who provide them with support, who will provide them with care? Services will be needed to fill the gap, and these services are not always available in rural areas. As not all seniors have support networks, there is a place for formal services in rural Canada.

4. Rural older adults are not passive receivers of support.

The two most common exchange patterns included receiving few tasks while providing a high number and receiving and providing a high number of tasks. These findings indicate that the majority of seniors who exchange support provide a high number of tasks and services to their family members, friends and neighbours. As helping others is often part of rural culture (Scharf & Barlam, 2008), these contributions may be a normal part of daily life. However, these contributions also help build social ties and maintain supportive relationships.

This study has demonstrated that the receipt and provision of support should be considered conjointly. Some older adults who did not receive support, or who had small support networks, were providers of support to family and friends. Older adults are often portrayed to be on the receiving end of tasks, leading to conclusions that they are in need of support, when in fact many older adults are active contributors within their families and communities.

A subgroup of older adults who received a high number of tasks while providing few was identified in this study. These older adults likely have the most need for support, as they were older in age and had the lowest perceived health. They were also likely to have children in their support networks, who may be repaying support previous received. Contexts of exchanges (i.e. with whom support is exchanged) and specific life circumstances (i.e. health status) are important to consider when examining exchange patterns and making speculations about continued support.

Limitations

There were five main limitations to this study. First, findings based on this sample are not representative of all older adults in rural Canada. This is because the sample included older adults who were Legion members, or spouses of Legion members. Legion members may have different interactions with family and friends compared with the overall rural population. Having access to Royal Canadian Legions can provide this population with unique opportunities for building social and supportive connections. Some Veterans may also qualify for formal services to help meet their day-to-day needs (http://www.vac-acc.gc.ca/). Consequently, they may receive fewer tasks from family and friends compared with seniors who do not have such access. Thus the social and support networks identified in this study may differ somewhat from the overall rural population.

Second, specific tasks and services were asked about to understand social support exchanges. Support network members included family and friends who provided the respondent with at least one of the thirteen tasks asked about

in the survey, over the past month. Despite asking about a wide variety of tasks and services, it is possible some supporters were not identified as they provided different tasks. Furthermore, as tasks were limited to a one month period, there may be other social network members that provide support periodically that were not included in support networks. It is possible the tasks they provide were not recently needed by the older adult.

Third, there were limitations to measuring exchange patterns using this data set. The survey included cross-sectional data that measured tasks provided and received over a one month period. This creates challenges to measuring balance. For example, an older person may currently receive tasks from their children who are repaying them for tasks provided when they were young (Shaw et al., 2007). A limitation of this cross-sectional study is that it does not capture exchange history that has occurred over a lifetime.

Fourth, in the survey exchanges were measured from the perspective of one individual – the older adult. This is a limitation as perceptions may differ between those who give support and those who get support. For example, an older person who is dependent on support from their children may report higher levels of children's dependence, to feel equitable in their exchanges (Ha et al., 2006). Data obtained from the perceptions of one individual may be limited due to its subjective nature.

Finally, the only measurement of health available in the survey was based on self-perceived health. The challenge with this measurement is that some older adults may rate their health as poor if they have seen a recent decline, whereas seniors with similar conditions may rate their health as excellent because they feel they are better off than their peers. Self-rated health has been shown to be a valid and reliable measure (Lundberg, 1996; Miilunpalo et al., 1997) however it is possible that objective measures of health may lead to different health related findings. This is a consideration for future research.

Future Research

With age and changes in health, older adults may need more support and possibly care. The current study focused only on social support, defined as *positive exchanges of instrumental, informational and emotional tasks and services with family, neighbours and friends*. Snapshots of support networks have been provided however it would be interesting to learn more about how support network types may evolve over time to accommodate increased care needs. For example, do support networks become more local or family focused? Wenger and Keating (2008) have explored how support networks evolve from providing day-to-day tasks to providing the care needed for older adults to remain at home. They found that support networks become much less diverse, either shifting toward care from mostly close kin, or to tentative networks that are unable to sustain the needed levels of support. These results are based on support network types found in rural Wales, and as Canadian support networks differ somewhat from this sample, more research is needed to track this evolution within a rural Canadian context.

Future research may also want to explore how exchange patterns might evolve over time. For example, do older adults with *low receive high provide* exchange patterns maintain these exchanges, do they become more balanced over time, or do these seniors become net receivers, cashing in on banked support? Research on the evolution of exchange patterns can inform theory on long-term reciprocity and banked support. Empirically, it may also contribute to our understanding of the ability of older residents with various exchange patterns to build or maintain relationships within their rural community. This research could further demonstrate the extent that current exchange patterns are predictors of future support.

Finally, participants in this sample come from diverse rural settings. Variations exist in the population size of their communities, the proportion of seniors, and the distance their community is from a larger urban centre. These characteristics can influence exchanges of support. For example, previous analysis of Statistics Canada's 2001 Census found that communities that had a

relatively small population size and higher proportions of seniors were associated with a higher proportion of residents who provided support to older adults (Keefe et al., 2004). It can be hypothesized that the distance to an urban centre may also impact exchanges, as older adults who reside greater distances from services may rely more on local family and friends for support. These findings suggest that rural community characteristics can influence whether support happens. The question is can community characteristics also predict of the types of social and support networks present? For example, are seniors more socially connected when they live in communities with small population sizes? Do older adults living further from urban centres have larger support networks to fill gaps in proximate services? Do older adults residing in communities with a high proportion of seniors have a higher proportion of older people in their support networks? While this study has explored variation in rural older adults' social and support networks, researchers may wish to explore how social and support networks differ according various rural community characteristics.

REFERENCES

Aartsen, M.J., van Tilburg, T., Smits, C.H.M., and Knipscheer, K.C.P.M. (2004). A longitudinal study of the impact of physical and cognitive decline on the personal network in old age. *Journal of Social and Personal Relationships*, 21(2), 249-266.

Ajrouch, K.J., Blandon, A.Y., & Antonucci, T.C. (2005). Social networks among men and women: The effects of age and socioeconomic status. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences, 60B(6),* S311-S317.

Akiyama, H., Antonucci, T.C., & Campbell, R. (2009). Exchange and reciprocity among two generations of Japanese and American women. In J. Sokolovsky (Ed.), *The cultural context of aging: Worldwide perspectives (3rd Edition)* (pp. 1-14). Westport: Praeger.

Anderson, J.A., Petersen, N.J., Kistner, C., Soltero, E.R., & Willson, P. (2006). Determining predictors of delayed recovery and the need for transitional cardiac rehabilitation after cardiac surgery. *Journal of the American Academy of Nurse Practitioners, 18(8),* 386-392.

Antonucci, T.C., Akiyama, H. & Takahashi, K. (2004). Attachment and close relationships across the life span. *Attachment & Human Development, 6(4)*, 353-370.

Arber, S. (2001). Designing samples. In N. Gilbert, (Ed.), *Researching Social Life (2nd Edition)* (pp.58-82). London: Sage Publications.

Arbuthnot, E., Dawson, J., & Hansen-Ketchum, P. (2007). Senior women and rural living. *Online Journal of Rural Nursing and Health Care, 7(1),* 35-46.

Arthur, H.M. (2006). Depression, isolation, social support, and cardiovascular disease in older adults. *Journal of Cardiovascular Nursing, 21(5),* S2-S7.

Ashida, S. & Heaney, C.A. (2008). Differential associations of social support and social connectedness with structural features of social networks and the health status of older adults. *Journal of Aging and Health, 20(7),* 872-893.

Atkin, C. (2003). Rural communities: Human and symbolic capital development, fields apart. *Compare, 33(4),* 507-518.

Baranowski, M. D. & Schilmoeller, G. L. (1999). Grandparents in the lives of grandchildren with disabilities: Mothers' perceptions. *Education and Treatment of Children, 22(4),* 427–446.

Barker, J.C., Herdt, G., & de Vries, B. (2006). Social support in the lives of lesbians and gay men at midlife and later. *Sexuality Research & Social Policy: Journal of NSRC, 3(2),* 1-23.

Barker, J.C., Morrow, J., & Mitteness, L.S. (1998). Gender, informal social support networks, and elderly urban African Americans. *Journal of Aging Studies*, *12(2),* 199-122.

Barthalow Koch, P. & Kernoff Mansfield, P. (2004). Facing the unknown: Social support during the menopausal transition. *Women & Therapy, 27(3/4),* 179-194.

Bengtson, V.L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal o Marriage and Family, 63,* 1-16.

Bess, I. (1999). Seniors behind the wheel. *Canadian Social Trends, Statistics Canada – Catalogue No. 11-008,* 2-7.

Blau, P.M. (1964). *Exchange and power in social life.* New York: Wiley.

Boneham, M.A., & Sixsmith, J.A. (2006). The voices of older women in a disadvantaged community: Issues of health and social capital. *Social Science & Medicine, 62,* 269-279.

Brissette, I., Cohen, S., & Seeman, T.E. (2000). Measuring social integration and social networks. In S. Cohen, L.G. Underwood, & B.H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 53-85). Toronto: Oxford University Press.

Broese van Groenou, M.I. & van Tilburg, T. (1997). Changes in the support networks of older adults in the Netherlands. *Journal of Cross-Cultural Gerontology,* 12, 23-44.

Broese van Groenou, M.I. & van Tilburg, T. (2003). Network size and support in old age: differentials by socio-economic status in childhood and adulthood. *Ageing & Society, 23,* 625-645.

Brown, S.L., Nesse, R.M., Vinokur, A.D., & Smith, D.M. (2003). Providing social support may be more beneficial than receiving it: Results from a prospective study of mortality. *Psychological Science, 14(4),* 320-327.

Bryant, C. & Joseph, A.E. (2001). Canada's rural population: trends in space and implications in place. *Canadian Geographer, 45(1),* 132-137.

Bryman, A. (2001). *Social research methods*. Oxford: Oxford University Press.

Bull, N.C. (1998). Aging in rural communities. *National Forum, 78 (2),* 38-41.

Burleson, B.R. & MacGeorge, E.L. (2002). Supportive Communication. In M.L. Knapp & J.A. Daly (Eds.), *Handbook of interpersonal communication (3rd Ed.)* (pp.374-424). Thousand Oaks: Sage.

Campbell, L.D., Connidis, I.A., & Davies, L. (1999). Sibling ties in later life: A social network analysis. *Journal of Family Issues, 20 (1),* 114-148.

Caplan, G. (1974). *Support systems and community mental health.* New York: Behavioral Publications.

Carpentier, N. & Ducharme, F. (2006). Reflections on social network data validity: The example of the social networks of caregivers of older persons with Alzheimer-type dementia. *Canadian Journal on Aging*.

Chao, S.Y., Lan, Y.H., Tso, H.C., Chung, C.M., Neim, Y.M., & Clark, M.J. (2008). Predictors of psychosocial adaptation among elderly residents in long-term care settings. *Journal of Nursing Research, 16(2),* 149-159.

Chronister, J.A., Johnson, E.K., & Berven, N.L. (2006). Measuring social support in rehabilitation. *Disability and Rehabilitation, 28(2),* 75-84.

Cimarolli, V.R., Reinhardt, J.P. & Horowitz, A. (2006). Perceived overprotection: Support gone bad? *Journal of Geronotology: Social Sciences, 61B(1),* S18-S23.

Clark, K.J. (2007). Strengthening and sustaining social supports for rural elders. *Online Journal of Rural Nursing & Health Care, Spring 2007.*

Cloke, P., Milbourne, P., & Thomas, C. (1997). Living lives in different ways? Deprivation, marginalization, and changing lifestyles in rural England. *Transactions of the Institute of British Geographers, 22(2),* 210-230.

Cloutier-Fisher, D., & Kobayashi, K.M. (2009). Examining social isolation by gender and geography: Conceptual and operational challenges using population health data in Canada. *Gender, Place and Culture, 16(2),* 181-199.

Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine, 38(5),* 300-313.

Cohen, S. & Wills, T.A. (1985). Social support, stress and the buffering hypothesis. *Psychological Bulletin, 98,* 310-357.

Connidis, I.A. (2001). *Family ties & aging*. Thousand Oaks: Sage Publications.

Cook, K.S. & Emerson, R.M. (1978). Power, equity and commitment in exchange networks. *American Sociological Review, 43(5),* 721-739.

De Jong Gierveld & Fokkema, T. (1998). Geographical differences in support networks of older adults. *Tijdschrift voor Economische en Sociale Geografic, 89(3),* 328-336.

Ding, S. (2004). The rural elderly support in China and Thailand. *Geriatrics and Gerontology International, 4,* S56-S59.

Dobbs, B., Swindle, J., Keating, N., Keefe, J., & Eales, J. (2004). *Caring contexts of rural seniors: Phase II technical report.* Submitted to Veterans Affairs Canada.

Dowd, J.J. (1975). Aging as exchange: A preface to theory. *Journal of Gerontology, 30(5),* 584-594.

Duner, A., & Nordstrom, M. (2007). The roles and functions of the informal support networks of older people who receive formal support: A Swedish qualitative study. *Ageing & Society, 27,* 67-85.

Dunning, A. (2006). Grandparents – An intergenerational resource for families: A UK perspective. *Journal of Intergenerational Relationships, 4(1),* 127-135.

Dykstra, P.A., van Tilburg, T.G., & de Jong Gierveld, J. (2005). Changes in older adult loneliness: Results from a seven-year longitudinal study. *Research on Aging, 27(6),* 725-747.

Eales, J., Keefe, J., & Keating, N. (2008). Age-friendly rural communities. In N. Keating (Ed.), *Rural ageing: A good place to grow old?* (pp. 109-120). Bristol: The Policy Press.

Eales, J., Keating, N., Rozanova, J., Bardick, A., Swindle, J., Bowles, R.T., Keefe, J., & Dobbs, B. (2006). *Veterans Affairs Canada - Caring contexts of rural seniors: Phase III technical report.* Edmonton, AB: Authors.

Edwards, J.N. (1969). Familial behavior as social exchange. *Journal of Marriage and the Family, 31(3),* 518-526.

Emerson, R.M. (1976). Social exchange theory. *Annual Review of Sociology, 2,* 335- 362.

Faber, A.D., & Wasserman, S. (2002). Social support and social networks: Synthesis and review. *Social Networks and Health, 8,* 29-72.

Fast, J. & de Jong Gierveld, J. (2008). Ageing, disability and participation. In N. Keating (Ed.), *Rural ageing: A good place to grow old?* (pp. 63-73). Bristol: The Policy Press.

Fast, J., Keating, N., Otfinowski, P., & Derksen, L. (2004). Characteristics of family/friend care networks of frail seniors. *Canadian Journal on Aging, 23(1),* 5-19.

Federal/Provincial/Territorial Ministers Responsible for Seniors (2007). *Age-friendly rural and remote communities: A guide.* Retrieved May 27, 2008 from: http://www.phac-aspc.gc.ca/seniors-aines/pubs/age_friendly_rural/index_e.htm

Finfgeld-Connett, D. (2007). Concept comparison of caring and social support. *International Journal of Nursing Terminologies and Classifications, 18 (2),* 58-68.

Fiori, K.L., Antonucci, T.C., Cortina, K.S. (2006). Social network typologies and mental health among older adults. *Journal of Gerontology: Psychological sciences, 61B(1),* P25-P32.

Fiori, K.L., Smith, J., Antonucci, T.C. (2007). Social network types among older adults: A multidimensional approach. *Journal of Gerontology, 62B(6),* P322-P330.

Fowler, F.J. (2002). *Survey research methods (3rd Edition).* Thousand Oaks: Sage.

Fung, H.H., Stoeber, F.S., Yeung, D.Y.I., & Lang, F.R. (2008). Cultural specificity of socioemotional selectivity: Age differences in social network composition among Germans and Hong Kong Chinese. *Journal of Gerontology: Psychological Sciences, 63B(3),* P156-P164*.*

Gorard, S. (2003). *Quantitative Methods in Social Science*. New York: Continuum.

Gray, A. (2009). The social capital of older people. *Ageing & Society, 29,* 5-31.

Grundy, E. (2005). Reciprocity in relationships: socio-economic and health influences on intergenerational exchanges between Third Age parents and their adult children in Great Britain. *The British Journal of Sociology, 56(2),* 233-255.

Guiaux, M., van Tilburg, T., & Broese van Groenou, M. (2007). Changes in contact and support exchange in personal networks after widowhood. *Personal Relationships, 14,* 457-473.

Ha, J.H., Carr, D., Utz, R.L., & Nesse, R. (2006). Older adults' perceptions of intergenerational support after widowhood: How do men and women differ? *Journal of Family Issues, 27(1),* 3-30.

Hayes, P.A. (2006). Home is where their health is: Rethinking perspectives of Informal and formal care by older rural Appalachian women who live alone. *Qualitative Health Research, 16(2),* 282-297

Health Canada (2002). *Canada's aging population.* Ottawa: Health Canada.

Hicks Patrick, J., Cottrell, L.E., & Barnes, K.A. (2001). Gender, emotional support, and well-being among the rural elderly. *Sex Roles*, *45(1/2),* 15-29.

Hirdes, J.P. and Strain, L.A. (1995). The balance of exchange in instrumental support with network members outside the household. *Journal of Gerontology, 50B(3),* S134-S142.

Homans, G.C. (1958). Social behavior as exchange. *The American Journal of Sociology, 63(6),* 597-606.

Howell, D.M. & Cleary, K.K. (2007). Rural seniors' perceptions of quality of life. *Physical & Occupational Therapy in Geriatrics, 25(4),* 55-71.

Hupcey, J.E. (1998). Clarifying the social support theory-research linkage. *Journal of Advanced Nursing, 27,* 1231-1241.

Hupcey, J.E. (1998b). Social support: Assessing conceptual coherence. *Qualitative Health Research, 8(3),* 304-318.

Joseph, A.E. & Cloutier-Fisher, D. (2005). Ageing in rural communities: vulnerable people in vulnerable places. In G.J. Andrews, & Phillips, D.R. (Eds.), *Ageing and place: Perspectives, policy, practice* (pp.133-146). London: Routledge.

Kahn, R.L. & Antonucci, T.C. (1980). Convoys over the life course: Attachment, roles, and social support. In P.B. Baltes & O.G. Brim, Jr. (Eds.), *Life-span development and behavior (Vol.3)* (pp. 253-286). New York: Academic Press.

Kaplan, B.H., Cassel, J.C., & Gore, S. (1977). Social support and health. *Medical Care, 15(5),* 47-58.

Keating, N. & Dosman, D. (in press). Social capital and the care networks of frail seniors. *Canadian Review of Sociology.*

Keating, N. & Phillips, J. (2008). A critical human ecology perspective on rural ageing. In N. Keating (Ed.), *Rural ageing: A good place to grow old?* (pp. 1-10). Bristol: The Policy Press.

Keating, N, Keefe, J. & Dobbs, B. (2001). A good place to grow old? Rural communities and support to seniors. In R. Epp, & D. Whitson (Eds.), *Writing off the rural west: Globalization, governments and the transformation of rural communities.* Parkland: The University of Alberta Press.

Keating, N., Otfinowski, P., Wenger, C., Fast, J., & Derksen, L. (2003).Understanding the caring capacity of informal networks of frail seniors: a case for care networks. *Ageing & Society, 23,* 115-127.

Keeling, S. (2001). Relative distance: ageing in rural New Zealand. *Ageing and Society, 21,* 605-619.

Kim, H.K., Hisata, M., Kai, I., & Lee, S.K. (2000). Social support exchange and quality of life among the Korean elderly. *Journal of Cross-Cultural Gerontology, 15,* 331-347.

Kim, I.K. & Kim, C. (2003). Patterns of family support and the quality of life of the elderly. *Social Indicators Research, 62, 63*, 437-454.

Klein Ikkink, K. & van Tilburg, T. (1998). Do older adults' network members continue to provide instrumental support in unbalanced relationships? *Journal of Social and Personal Relationships, 15(1),* 59-75.

Klein Ikkink, K. & van Tilburg, T. (1999). Broken ties: Reciprocity and other factors affecting the termination of older adults' relationships. *Social Networks, 21,* 131-146.

Kreager, P., & Schroder-Butterfill, E. (2007). Gaps in the family networks of older people in three Indonesian communities.*Journal of Cross Cultural Gerontology, 22,* 1-25.

Krause, N. & Borawski-Clark, E. (1995). Social class differences in social support among older adults. *The Gerontologist, 35(4),* 498-508.

Lakey, B. & Cohen, S. (2000). Social support theory and measurement. In S. Cohen, L.G. Underwood, & B.H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 29-51). Toronto: Oxford University Press.

Langford, C.P.H., Bowsher, J., Maloney, J.P., & Lillis, P.P. (1997). Social support: a conceptual analysis. *Journal of Advanced Nursing, 25,* 95-100.

Lau, R. & Morse, C.A. (2008). Health and well-being of older people in Anglo-Australian and Italian-Australian communities: A rural-urban comparison. *Australian Journal of Rural Health, 16,* 5-11.

Liang, J., Krause, N.M., & Bennett, J.M. (2001). Social exchange and well-being: Is giving better than receiving? *Psychology and Aging, 16(3),* 511-523.

Litwak, E. (1985). *Helping the elderly: The complementary roles of informal networks and formal systems.* New York: Guilford Press.

Litwin, H. (1997). Support network type and health service utilization. *Research on Aging, 19(3),* 274-299.

Litwin, H. (1999). Support network type and patterns of help giving and receiving among older people. *Journal of Social Service Research, 24(3/4),* 83-101.

Litwin, H. (2001). Social network type and morale in old age. *The Gerontologist*, 41(1), 516-524.

Litwin, H. (2004). Social networks, ethnicity and public home-care utilisation. *Ageing & Society, 24,* 921-939.

Litwin, H. & Haj-Yahia, M.M. (1996). Informal support networks among aging populations in transition. *Bold, 7(1),* 2-7.

Litwin, H. & Landau, R. (2000). Social network type and social support among the old-old. *Journal of Aging Studies*, 14(2), 213-228.

Lowenstein, A., & Daatland, S.O. (2006). Filial norms and family support in a comparative cross-national context: Evidence from the OASIS study. *Ageing & Society, 26,* 203-223.

Lowenstein, A., Katz, R., & Gur-Yaish, N. (2007). Reciprocity in parent-child exchange and life satisfaction among the elderly: A cross-national perspective. *Journal of Social Issues, 63(4),* 865-883.

Lundberg, O. (1996). Assessing reliability of a measure of self-rated health. *Scandinavian Journal of Public Health, 24(3),* 218-224.

Mackenzie, P. (2004). Social work practice with rural elderly. In M.J. Holosko & M.D. Feit (Eds.), *Social work practice with the elderly (3rd ed.)* (pp. 275-301). Toronto: Canadian Scholars' Press.

Mancini, A.D. & Bonanno, G.A. (2006). Marital closeness, functional disability, and adjustment in late life. *Psychology and Aging, 21(3),* 600-610.

Manthorpe, J., Malin, N., & Stubbs, H. (2004). Older people's views on rural life: a study of three villages. *Journal of Clinical Nursing, 13(6b),* 97-104.

McPherson, B.D. (2004). *Aging as a social process: Canadian perspectives (4th Edition).* Toronto: Oxford University Press.

Mechanic, D., & Tanner, J. (2007). Vulnerable people, groups, and populations: Societal view. *Health Affairs, 26(5),* 1220-1230.

Melkas, T. & Jylha, M. (1996). Social network characteristics and social network types among elderly people in Finland. In H. Litwin (Ed.), *The social networks of older people: A cross-national analysis* (pp.99-116). Westport, CN: Praeger.

Midlarsky, E. (1991). Helping as coping. In M.S. Clark (Ed.), *Review of personality and social psychology* (pp.239-264). Newbury Park, NJ: Sage.

Miilunpalo, S., Vuori, I., Oja, P., Pasanen, M., & Urponen, H. (1997). Self-rated health status as a health measure: The predictive value of self-reported health status on the use of physician services and on mortality in the working-age population. *Journal of Clinical Epidemiology, 50(5),* 517-528.

Ministerial Advisory Council on Rural Health. (2002). *Rural health in rural hands: Strategic directions for rural, remote, Northern and Aboriginal communities*. Ottawa: Health Canada.

Mitchell, W. (2007). Research review: The role of grandparents in intergenerational support for families with disabled children: a review of the literature. *Child and Family Social Work, 12,* 94-101.

Moremen, R.D. (2008). The downside of friendship: Sources of strain in older women's friendships. *Journal of Women & Aging, 20(1/2),* 169-187.

Neufeld, A. & Harrison, M.J. (1998). Men as caregivers: reciprocal relationships or obligation? *Journal ofAdvanced Nursing, 28(5),* 959-968.

Nihtila, E. & Martikainen, P. (2008). Institutionalization of older adults after the death of a spouse. *American Journal of Public Health, 98(7),* 1228-1234.

Norusis, M.J. (2008). *SPSS 17.0 Statistical procedures companion.* Upper Saddle River: Prentice Hall.

Nye, F.I. (1978). Is choice and exchange theory the key? *Journal of Marriage and the Family, 40(2),* 219-233.

Nye, F.I. (1980). Family mini theories as special instances of choice and exchange theory. *Journal of Marriage and the Family, 42(3),* 479-489.

Peek, M.K. & Lin, N. (1999). Age differences in the effects of network composition on psychological distress. *Social Science & Medicine, 49(5),* 621-636.

Perren, K., Arber, S., & Davidson, K. (2004). Neighbouring in later life: The influence of socio-economic resources, gender and household composition on neighbourly relationships. *Sociology 38(5),* 965-984.

Phillips, D.R., Siu, O.L., Yeh, A.G.O., & Cheng, K.H.C. (2005). Ageing and the urban environment. In G.J. Andrews, & Phillips, D.R. (Eds.), *Ageing and place: perspectives, policy, practice* (pp.147-163). London: Routledge.

Phillipson, C., Bernard, M., Phillips, J., & Ogg, J. (2000). *The family and community life of older people: Social networks and social support in three urban areas* (pp. 20-34, 118-160). London, UK: Routledge.

Powers, E.A. & Kivett, V.R. (1992). Kin expectations and kin support among rural older adults. *Rural Sociology, 57(2),* 194-215.

Reinhardt, J. P., Boerner, K., & Benn, D. (2003). Predicting individual change in support over time among chronically impaired older adults. *Psychology and Aging, 18*(4), 770-779.

Rowles, G.D. (1983). Geographical dimensions of social support in rural Appalachia. In G.D. Rowles & R.J. Ohta (Eds.), *Aging and milieu: Environmental perspectives on growing old* (pp.111-130). Toronto: Academic Press.

Sabatelli, R.M. & Shehan, C.L. (1993). Exchange and resource theories. In P. G. Boss & W. J. Doherty & R. LaRossa & W. R. Schumm & S. K. Steinmetz (Eds.), *Sourcebook of family theories and methods: A contextual approach* (pp. 385-411). New York: Plenum Press.

Saito, E., Sagawa, Y., & Kanagawa, K. (2005). Social support as a predictor of health status among older adults living alone in Japan. *Nursing and Health Sciences, 7,* 29-36.

Scharf, T., & Bartlam, B. (2006). *Rural disadvantage: Quality of life and disadvantage amongst older people – A pilot study*. Commission for Rural Communities: Tackling rural disadvantage.

Scharf, T. & Barlam, B. (2008). Ageing and social exclusion in rural communities. In N. Keating (Ed.), *Rural ageing: A good place to grow old?* (pp. 97-108). Bristol: The Policy Press.

Schroder-Butterfill, E. & Marianti, R. (2006). A framework for understanding old-age vulnerabilities. *Ageing & Society, 26,* 9-35.

Shaw, B.A., Krause, N., Liang, J., & Bennett, J. (2007). Tracking changes in social relations throughout late life. *Journal of Gerontology: Social Sciences, 62B(2),* S90-S99.

Shenk, D., & Christiansen, K. (2009). Social support systems of rural older women: A comparison of the United States and Denmark. In J. Sokolovsky (Ed.), *The cultural context of aging: Worldwide perspectives (3rd Edition)* (pp. 1-17). Westport: Praeger.

Silverstein, M., Conroy, S.J., Wang, H., Giarrusso, R., & Bengston, V.L. (2002). Reciprocity in parent-child relations over the adult life course. *Journal of Gerontology: Social Sciences, 57B(1),* S3-S13.

Skinner, M.W. & Joseph, A.E. (2007). The evolving role of voluntarism in ageing rural communities. *NewZealand Geographer, 63,* 119-129.

Spitze, G. (1999). Getting help with housework: Household resources and social networks. *Journal of Family Issues, 20(6),* 724-745.

Statistics Canada (2002). *Profile of the Canadian population by age and sex: Canada ages.* Cat. no. 96F0030 XIE2001002. Ottawa: Statistics Canada (www.statcan.ca).

Statistics Canada (2007). *The Daily: 2006 Census Age and Sex.* Ottawa: Statistics Canada (www.statcan.ca).

Stoller, E.P. (1985). Exchange patterns in the informal support networks of the elderly: The impact of reciprocity on morale. *Journal of Marriage and the Family, 47(2),* 335-342.

Stone. L. & Rosenthal, C. (1996). Profiles of the social networks of Canada's elderly: An analysis of 1990 general social survey data. In H. Litwin (Ed.), *The social networks of older people: A cross-national analysis* (pp.77-97). Westport, CN: Praeger.

Stuifbergen, M.C., van Delden, J.J.M., & Dykstra, P.A. (2008). The implications of today's family structures for support giving to older parents. *Ageing & Society, 28,* 413-434.

Thibaut, J.W. & Kelley, H.H. (1959). *The social psychology of groups.* New York: Wiley.

Turcotte, M. & Schellenberg, G. (2007). *A portrait of seniors in Canada.* Ottawa: Statistics Canada.

van der Poel, M.G.M. (1993). Delineating personal support networks. *Social Networks, 15,* 49-70.

van Tilburg, T. & Broese van Groenou, M. (2002). Network and health changes among older Dutch adults. *Journal of Social Issues, 58(4),* 697-713.

Wellman, B. (1981). Applying network analysis to the study of support. In B.H. Gottlieb (Ed.), *Social networks and social support* (pp. 171-200). Newbury Park, CA: Sage.

Wenger, G.C. (1996). Support network measurement and typology development in England and Wales. In H. Litwin (Ed.), *The social networks of older people: A cross-national analysis* (pp.117-141). Westport, CN: Praeger.

Wenger, G.C. (1997). Review of findings on support networks of older Europeans. *Journal of Cross-Cultural Gerontology, 12,* 1-21.

Wenger, G.C. (2001). Introduction: Intergenerational relationships in rural areas. *Ageing and Society, 21,* 537-545.

Wenger, G.C. & Keating, N. (2008). The evolution of networks of rural older adults. In N. Keating (Ed.), *Rural ageing: A good place to grow old?* (pp. 33-42). Bristol: The Policy Press.

Wenger, G.C., Scott, A., & Patterson, N. (2000). How important is parenthood? Childlessness and support in old age in England. *Ageing and Society,* 20, 161-182.

Wiles, J. (2003). Informal caregivers' experiences of formal support in a changing context. *Health and Social Care in the Community, 11(3),* 189-207.

Williams, A.M. & Cutchin, M.P. (2002). The rural context of health care provision. *Journal of Interprofessional Care, 16(2),* 107-115.

Wills, T.A., & Shinar, O. (2000). Measuring perceived and received social support. In S. Cohen, L.G. Underwood, & B.H. Gottlieb (Eds.), *Social support measurement and intervention: A guide for health and social scientists* (pp. 86-135). Toronto: Oxford University Press.

Yoshino, S. (2006). *Older adults' care network typologies*. Edmonton: Hidden Costs Invisible Contributions (HCIC) research program.

Zhang, W., Li, S., & Silverstein, M. (2005). The effects of inter-generational support on the mortality of older people in rural China. *Asian Population Studies, 1(3),* 325-338.

Zunzunegui, M. V., Koné, A., Johri, M., Béland, F., Wolfson, C., & Bergman, H. (2004). Social networks and self-rated health in two French-speaking Canadian community dwelling populations over 65. *Social Science and Medicine, 58*, 2069-2081.