The Utility of a Network Typology in Understanding the Help-Seeking Behaviours of Older Rural Australians

By

Suzanne Byers

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This thesis is respectfully dedicated to two extraordinary women

Clare Wenger and Sam Davis

For their determination to protect dignity in the lives
of older people everywhere

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Declaration

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference has been made in the text.

The research presented in this thesis was conducted with the permission and oversight of the Flinders University Social and Behavioural Research Ethics Committee (Project No. 6683).

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Abstract

The importance of social relationships to older people's health has been long understood. In the gerontological literature, and in Australian policy for older people, social isolation is recognised as a health risk, and social connectedness as a health benefit.

Research has shown that while social networks can evolve and change over time due to the inherent nature of networks, the key features of older people's social networks are shaped by personal circumstances and events over the life course. That is, the type of family and community a person is born into usually influences pathways to education, work and wealth, inherent fertility may impact decisions regarding marriage and children, and migration patterns in retirement may strengthen or disrupt social ties and connections. Research has also shown that access to social support depends on both the nature of the social relationships that exist within the social network, and the proximity in which people live to each other. Older people with more limited access to social support are often more vulnerable to poorer health outcomes.

For older people living in rural settings there is the additional challenge of the economic diversity and heterogeneity of their communities. The availability of local amenities, the scope of work opportunities, and the level of educational opportunities for younger and working age people, are all contributing factors to the sustainability of rural communities. A better understanding of an older person's network of social support can assist in both improving health outcomes for an individual, and contribute to service planning and social policy for older rural people more broadly.

The Australian research outlined in this thesis tested the application of a validated instrument - the Wenger *Practitioner Assessment of Network Type* - in determining the social support networks of older people living in the East Gippsland region of Australia. This research found the Wenger *Support Network Typology* to be effective in an older rural Australian population, with research participants able to be broadly grouped into five distinct support network types. This knowledge was used to understand how older rural people accessed social support from within their social networks when they needed it. This study also explored the network characteristics of the Australian Wenger *Support Network Typology*, and found that, while families continued to play a pivotal role in providing support and social connection for many older Australians, good relationships with both friends and neighbours were important for morale and social support in older age.

This research generated a new version of the validated Wenger *Practitioner Assessment of Network Type* instrument tailored for an Australian audience, and highlighted and discussed the strengths of a novel Australian postal delivery methodology in building a rigorous community sample. It is hoped that this research will assist in health and human services planning for older people living in rural Australian communities. Importantly, this research has shown how service providers and policy makers can use network typing to better inform service provision and social policy, for both older people now and into the future.

Acknowledgements

I would like to start by acknowledging that this PhD journey has been a long, and sometimes frustrating journey, interrupted significantly by the arrival of COVID in Australia. My work commitments at the Victorian Government Department of Health during the last three years have been significant, extending my study timeline well beyond the point when I had hoped to produce a thesis, and perhaps publish this research. Therefore, I would like to give my sincere thanks to all of my supervisors over the years, Anita de Bellis, Tim Windsor, Sam Davis and Helen Bartlett, as well as College and Graduate Office staff at Flinders University for their amazing patience and encouragement, and for making sure that I made it to the finish line.

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prepare for and attend two international conferences (Seoul, South Korea in 2013 and Swansea, Wales in 2018), and (of course) write and submit this thesis.

To my work friends and colleagues, in particular, Marianne, Karen, Vikki, Phili, Emma, Sally, Paul, Ingrid, Glenn and Tania, thank you for your humour, support and generosity, while I have tried to juggle (and find) some sort of work-life-study balance.

I would like to acknowledge my own support network of family and friends, who have not seen me 'as often as usual' over the last ten years, and for some of the functions and events I have had to miss at different times to accommodate my studies. Thanks for your understanding. To my good friends, Oriella and Denise, a special thank you for your friendship and encouragement (having undertaken this journey successfully before me!).

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Foreword

Social network research has a long tradition in the social sciences. Research has consistently found that a strong network of social relationships is linked to better health and wellbeing in older age. However, to date this knowledge has not been used very well to inform social policy or improve service provision in the community. This raises some ethical issues about the value of future social network research. With the ageing of populations globally, maybe this is a good time to refocus research efforts on translating existing evidence into useful tools and models, to help tackle the complex health and social problems facing older people both now and into the future.

I first met Professor G. Clare Wenger nearly twenty years ago at a conference in Hobart. Clare was presenting the culmination of many years of research, highlighting that the majority of older rural people (living in Welsh communities) coped well with older age, and had multiple avenues for assistance and emotional support in times of need. Clare also found five different 'support network' patterns in the Welsh population. Clare's development of the Wenger *Practitioner Assessment of Network Type* instrument meant that the 'support network' of an older person could be measured. Knowledge of 'support network' type was found to improve the quality of planning for older people receiving formal social care, and for older people returning home following discharge from hospital (among other outcomes).

I was impressed! I thought that if 'seeing' an older person's support network was useful for social workers, then it would be even more useful for other clinicians who were not trained experts in social care. I assumed it would be 'snapped' up by health and social care organisations all around the world and further developed in different care settings. However, it would be eight years before I discovered this did not happen, years when I was busy with a young family and learning the 'tools of the trade' in social gerontology research, and later on in the Victorian public service. So, what went wrong? Looking at the literature, I realised that there was no published research explicitly testing the empirical evidence of Clare's work. I thought that maybe that was all that was holding it back. So, I discussed this with a few people (far more experienced than myself) who thought it would be valuable to independently corroborate Clare's research findings in a new rural Australian population. It is hoped that this research will support the uptake, and further development of this important tool, in Australia.

Chapter One: Introduction

All around the world, populations are ageing and Australia's population is no exception (O'Loughlin, Browning, & Kendig, 2017). The latest report from the Australian Institute for Health and Welfare (AIHW) indicated that, on 30 June 2020, one in six Australians were aged 65 years and older, comprising 16% of Australia's total population. Importantly, the older population in Australia is expected to increase in number over the next 40 years, and is projected to make up between 21% and 23% of Australia's total population by 2066 (AIHW, 2021). Certainly, the large Australian post-war baby boom generation (born between 1946 and 1964) is expected to contribute to this growth (McDonald, 2017). Therefore, service planning and policy design in health and social care services for older people will become increasingly relevant in the years ahead.

Globally, rural communities are more likely to have older demographic profiles (Heide-Ottosen, 2014; Philip, Brown, & Stockdale, 2012). In Australia, the rural population has been ageing faster than the urban population for many years (Davis & Bartlett, 2008; Hugo, 2002). In some parts of the country, smaller rural towns are effectively becoming large retirement communities, such as the Victorian towns of Paynesville and Orbost. Two key trends are considered responsible for this faster rate of population ageing – the outmigration of younger people to cities (for education and work), and the in-migration of older people looking for a lifestyle change (Berry, 2020; Warburton, Cowan, & Bathgate, 2013). In Australia, older people seeking lifestyle changes are usually described as 'seachangers' (those moving to rural coastal areas), or 'treechangers' (those moving to rural inland communities), the better to highlight their preferred retirement destinations.

Younger retirees are reported to be moving from major urban centres seeking a lower cost of living (Atkins & Tonts, 2016). However, those chasing a rural lifestyle do not often fully anticipate the challenges of living in a rural location. Higher costs of living, issues with information and communication technology access, a reduced availability of recreational activities (Osbaldiston, Picken & Denny, 2021), and poorer access to health care services (Bourke, Humphreys, Wakerman, & Taylor, 2012), are some of key aspects which make rural life challenging, particular in later life. Older people may therefore be disappointed, when the benefits of rural living, such as fresh air, peace and quiet, lower housing costs and lower crime rates, do not outweigh the disadvantages.

Wenger (2001a:119) identified four common 'myths' of rural ageing which may help to explain why older people's expectations of rural life may not be realised – older people:

- live in pretty villages and small towns where they spend retirement happy and contented with few worries or cares;
- have strong family support networks that are available to provide loving and appropriate care if needed;
- live in well-integrated communities that take special pains to ensure that the needs of older people are met; and
- have better health and life satisfaction than people in urban areas, and so have fewer service needs.

Australian research has found that older people living in rural communities are frequently characterised by self-reliance, hardiness, and a preference for informal networks of support, so not surprisingly, the communities in which they live are seen as conservative, independent, cohesive and individualistic (Davis & Bartlett, 2008). However, this does not mean that older people living in rural communities actually require fewer services or have stronger family support networks (Wenger, 2001a). Wenger (1991, 2008) has consistently shown that some older people will not have strong family support and will need to rely on formal service provision in later life.

At the same time, older people are being asked to contribute more to their communities and families, and to be more resilient (Keeling, 2012). This is in light of growing concerns about the increasing costs, including health care costs, perceived to be associated with 'ageing' (Productivity Commission Australia, 2011). As Walker, Orpin, Baynes et al (2013: 940) point out, successive Australian governments have moved towards fostering policy and service models to extend "independent, healthy and economically productive lives of older citizens". Yet, the characteristics of rural living such as low population critical mass, patterns of migration, limited infrastructure and services, and the marginalisation of rural older people make achieving healthy ageing an ongoing challenge (Davis & Bartlett, 2008). If such policy goals are to be achieved for older people living in rural areas, a better understanding of the support that older people need to meet their social, psychological, and health needs in the rural environment is essential.

Social relationships and their importance to people's health have been long understood (House, Landis, & Umberson, 1988; Valente, 2010; Windsor, Curtis, & Luszcz, 2016).

Social isolation is recognised as a real health risk and social connectedness as a health benefit. The World Health Organization (2019) defines the social determinants of health to be:

> *The non-medical factors that influence health outcomes. They are the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life. These forces and systems include economic policies and systems, development agendas, social norms, social policies and political systems.*

There have been significant and rapid social changes in Australia over the last fifty years (Borowski, Ozanne, & Encel, 2007). Changes which have altered the traditional 'institution' of family and broadened the conversation about gender roles. Smaller families, Australian women no longer confined to the traditional caring and child rearing roles of previous generations, and the arrival of personal computers in Australian homes, have all contributed significantly to this social change. Certainly, broad and affordable access to the Internet and the World Wide Web, has forever changed the landscape of human interaction and access to information (Watts, 2004). This has created greater complexity for both social research and social policy (Graycar, 2018). As Graycar (2018:64) points out:

> *In policy design, it is always important to distinguish a condition from a problem. Ageing is a condition, and not necessarily a problem. One adapts to one's lifestyle as one ages and conditions change. However, when there is great poverty, ill health, and dependency, these conditions change into problems, and policy design comes into play. Understanding for whom ageing is a problem is fundamental.*

Systems thinking and network science offer tools and models to investigate complex social systems (Bosch & Nguyen, 2019; Colchester, 2016; Hansen, 2012). Epidemiologists have been using social network models to demonstrate the link between mortality and social relationships for more than forty years (Aiello, 2017; Berkman & Syme, 1979; Cassel, 1976; James, 2017). However, these tools and models continue to be used predominantly within the research environment and have not been developed to support service provision or policy development (Ayalon & Levkovich, 2018; Hansen, 2012; Valente, 2010, 2015).

Research has also shown that some older people will have less recourse to social support than others, and why older people with lower levels of support are at greater risk of poorer health

and wellbeing outcomes (Wenger & Tucker, 2002). Research has also shown that access to social support and in particular, help-seeking behaviours in older age, can sometimes have negative ramifications (Wenger 1991, Wicks, 2019, Zee & Bolger 2019). However, as to how this 'network knowledge' can be used to support policy development and service provision for older people is less clear.

Litwin and Shiovitz-Ezra (2010) noted the important contribution made by Wenger in translating research into practice. Specifically, they pointed out Wenger's work in both developing a robust network typology, and then translating it into a validated instrument (identifying the 'type' of supportive network around an older person) to inform health care interventions (Litwin & Shiovitz-Ezra, 2010; Wenger, 1991; Wenger & Tucker, 2002). Wenger and her team were able to show that the Wenger *Practitioner Assessment of Network Type* instrument better supported clinical decision-making across several social work practices in the United Kingdom (Wenger & Tucker, 2002). The social workers themselves identified the value in applying a network lens to their assessment of older people. The organisations involved in evaluating the Wenger *Practitioner Assessment of Network Type* tool, found that measuring a network type for all clients improved service planning, particularly workforce planning, across their organisations (Wenger and Tucker, 2002).

Despite this evidence, and its strong utility in care planning and service planning, the extent of the uptake of this network typing tool in Australian health care provider organisations and in government bureaucracies is unclear. Anecdotal evidence suggests that it is being used in a small number of Australian care settings to inform service provision but not organisational workforce planning (Byers, 2012). There is also no evidence that Australian governments are using network typing in any facet of policy development. One possibility for the lack of broad uptake in Australia, is that the tool was not specifically tailored for an Australian audience, with research generated in non-Australian populations.

The empirical testing of research (that is, undertaking an independent research study to validate research outcomes) strengthens the validity of the original research findings, offers opportunities to deepen understanding of the value of the original research (in terms of methods used, research design etc.), and contributes knowledge about where research may be generalisable, and therefore useful, for uptake in other populations or cohorts. To the best of the author's knowledge (and from in-depth discussions with other experts and a detailed

search of the literature), there has not been another research study so far to empirically test the Wenger *Support Network Typology* outside the United Kingdom - that is:

- analysing primary data collected directly from rural community-dwelling participants (and allocated to a support network type based on the Wenger algorithm), in combination with;
- in-depth qualitative interviews within the same population (to identify key network type characteristics of those support network types);

in order to substantiate the Wenger *Support Network Typology*.

Therefore, this research study seeks to independently test and corroborate (or not) the Wenger *Support Network Typology,* generated from research conducted in rural Wales, UK, in a modern rural Australian population.

The research questions

Specifically, this doctoral research set out to answer the following research questions:

- Is the Wenger *Practitioner Assessment of Network Type* instrument able to successfully allocate older people living in rural Australian communities into the Wenger *Support Network Typology*? Is the Wenger *Practitioner Assessment of Network Type* instrument effective for use in an Australian population?
- Is an Australian *Support Network Typology* consistent with the Wenger *Support Network Typology*? Are the support network characteristics in an Australian cohort similar or different to the Welsh cohort?
- How can understanding the help-seeking behaviours of older rural Australians be used to inform and improve Australian service planning for older people?

This research study used a mixed methods approach that made use of both quantitative and qualitative data. Taking a mixed methods approach enabled the different types of research questions to be addressed within this study. There was a quantitative phase for the identification of network types and data trends in the study sample; and a qualitative phase for the exploration of relationship quality and help seeking behaviour patterns with older people and their families, friends and neighbours. According to Doyle, Brady & Byrne (2009), adopting a mixed methods approach also provides a way to reduce bias in each type of method (quantitative or qualitative), and increase the credibility and validity of research

findings (known as *triangulation*). Using a combination of research approaches can also provide a more comprehensive picture of the study phenomena and can help to answer research questions or explain research findings, that cannot be answered by quantitative or qualitative methods alone (Doyle et al., 2009).

Thesis structure

Chapter Two: Theories and concepts

In this chapter an overview of social network theory is presented. Different social network models or constructs are described, as well as the context in which they are used. Concepts considered important for understanding social network theory, such as network density and network robustness, are also described. These concepts help to explain how human behaviour is influenced via membership of the social network. This chapter concludes with a discussion about working with social network data, and in particular, the challenges of capturing the quality of social relationships (both positive and negative aspects) in social network data sets.

Chapter Three: Review of the research literature

This chapter is presented in three sections. The first section reviews the literature pertinent to social support in older age. Concepts and definitions, as well as older people's perspectives on social support, and the structural ties that make up the informal network, are reviewed and discussed. This section also reviews the evidence around help seeking behaviour in older age, and the challenges that often exist at the interface between formal care and social support. The second section of this chapter comprises a review of the literature on how social support is measured, the challenges in measuring social support, and introduces the Wenger *Support Network Typology*. The third and final section of this chapter, presents a brief discussion of the pertinent rural ageing literature.

Chapter Four: Methodology

This chapter describes the methodology used in this research. As a mixed methods study, both the quantitative and qualitative phases of this study are presented. The first section of this chapter presents the methodology for the quantitative phase of this study which includes:

- how the study region, towns and communities were selected;
- how the questionnaire was developed;
- what sampling and recruitment strategies were used;
- how data was handled and what analyses were used;

- how data was recoded and why; and
- how the data has been stored following the conclusion of the research.

The second part of this chapter describes the methodology for the qualitative phase of the research which includes:

- the selection process used to determine the interview participants;
- the interview schedule developed;
- the process used to develop the thematic analysis;
- how data was handled and analysed; and
- how the data has been stored following the conclusion of the research.

Chapter Five: Presentation of Results: Part 1

This chapter presents the first series of research findings from this study, that includes:

- a description of the study sample;
- a presentation of the sample bias used to assess the generalisability of the research findings;
- the Wenger support network analysis; and
- a presentation of first two Australian Wenger networks - the *wider community focused* support network and the *private restricted* support network.

Chapter Six: Presentation of Results: Part 2

This chapter presents the second series of research findings from this study that includes: the presentation of final three Australian Wenger networks, the *locally integrated* support network, the *local self-contained* support network and the *family dependent* support network; the presentation of the Australian Wenger *support network typology*; and a short conclusion about the research findings in this study.

Chapter Seven: Discussion of findings

This chapter provides the discussion of the findings generated from this doctoral research with reference to the literature, and the theoretical framework of social network theory (where relevant).

Chapter Eight: Conclusion

This chapter provides a conclusion to the research study, highlighting that the Wenger *PANT* is effective for use in an Australian population.

Chapter Two: Theories and concepts

Introduction

Different academic disciplines (e.g., psychology, anthropology, social sciences, and mathematics) all offer a number of different theories and concepts in relation to social systems, and human interaction and behaviour. In the social sciences, *social network theory* and the use of the social network model or construct, was instrumental in researchers establishing a link between social networks and health outcomes (Berkman & Syme, 1979). As this doctoral research is primarily focused on understanding help seeking behaviours in older people, through the lens of a network typology, social network theory was considered the most appropriate theoretical framework to explain the findings in this study.

However, it seemed appropriate to start this chapter with a short review of a debate in the literature about the relationship between social network theory and the mathematical theory, known as *network theory*, as these theoretical frameworks are related. There is also increasing collaboration between academic disciplines in the new field of network science (Brandes, Robins, McCranie, & Wasserman, 2013; Watts, 2004), which is likely to impact on the development of social network theory into the future.

Social network theory and network theory

In recent years, there has been a debate about whether social network theory really exists, or whether social network research should be underpinned by the broader theoretical framework of *network theory*. At face value, the fact that this has become a debate is surprising given the long tradition of social network research in the social sciences, and the clear references to social network theory in the literature. It could also be argued that social network theory meets all the requirements of a theory in that it: promotes accurate communication about what the theory is about; has endured rigorous testing; has been found to be highly accurate; and has broad applicability (Ritzer, 2007). However, it is also true that social network analysis may be construed as a method that uses the social network model or construct to investigate variables of interest, such as health and wellbeing (Valente, 2010, 2015). It is also possible that some social network researchers are not even aware there is a mathematical theory as it relates to networks.

In network theory, social networks are considered part of the group of networks that are known as *complex networks*. Complex networks are becoming a larger focus in mathematics and computational science now their relevance in explaining much of the behaviour in living systems is recognised (Capra, 2015; Capra & Luisi, 2016; Watts, 2004). Kadushin (2004) is one of the few social network researchers that explicitly acknowledges a relationship between social network theory and network theory in his publications. As he points out, while both theories share a number of basic concepts, the interpretation of findings from social network analysis benefit from references to social theory (Kadushin, 2004). This is an important point, because it argues for the continued separation of social network theory from network theory, to ensure the robust interpretation of social network research findings.

Finally, it should also be noted that there is very little evidence in the peer reviewed literature, that gerontological researchers are focused on developing social network theory in relation to older people. This tends to support the criticism that gerontological research is 'data rich but theory poor' (Alley, Putney, Rice, & Bengtson, 2010; Bengtson & Settersten, 2016). With increasing collaboration in network science, it may be that social scientists will work more closely with mathematicians and computational scientists in the development of the theory as it relates to complex networks (including social networks), to ensure that social network theory stays relevant.

For the purposes of this dissertation, social network theory will be used to explain why using the social network construct offers a robust way to study behaviour in human populations.

Social network theory

Kadushin (2012) considers social network theory to be one of the few, if not the only, theory in the social sciences that is not reductionist. That is, social network research is not about trying to understand behaviour by studying individual attributes and beliefs, but rather its focus is on connectivity. Social network research is about exploring an individual's behaviour through the collective interactions of people (Kadushin, 2012).

A social network is made up of people or *actors*, and the relationships or *ties* between them (Borgatti, 2018). A social network is therefore defined, in social network theory, as a set of relationships between actors. In mathematical terms, networks are comprised of nodes or vertices, and links or edges (Estrada, Fox, Higham, & Oppo, 2012).

Social networks can vary in size. While the smallest social network is simply the set of relationships between two people (known as a *dyad*), large and complex social networks can involve tens of millions of relationships between hundreds of people (Kadushin, 2004). This exponential increase in connections in large and complex networks, poses a number of methodological challenges in network analysis.

Social network theory states that social networks have inherent properties 'hidden' within their structures, that a social network can develop new, emergent properties, and that sometimes only small changes within networks, can produce significant emergent effects (Kadushin, 2012). *Network density* is also an important concept in social network theory. Network density is the measure used to describe the level of connectedness within networks (Borgatti, 2018; Colchester, 2016). For example, a high-density value in a small network of known friends would indicate that each person knows every other person in the network well. On the other hand, a low-density value, in that same small network of known friends, would indicate that everyone does not know each other equally well. Some people may have one or two very good friends in the network, but only know every other person in the network through friends of friends. Importantly, with only these few pieces of information, that is, the number of actors in the network, the number of connections between them, and the density of the network, it becomes easy to see how many ties are needed to connect any two people in a given network.

There are also many different pathways through a network, connecting people and sharing information. One of the best ways to see these pathways or flows, and to see who may be influential in promoting or inhibiting the flow between connections, is to construct a 'network map' from this information. The ability to show social networks visually in topological maps[1] or sociograms[2] is very powerful (see **Figures 2.1 and 2.2**).

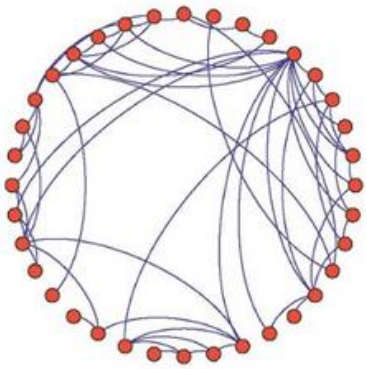
As shown in Figures 2.1 and 2.2, topological maps and sociograms do not seek to describe the physical distances between people but rather highlight the connectivity and *features* of a social network.

[1] The way in which constituent parts are interrelated or arranged. A **topological map** is a type of diagram that has been simplified so that only vital information remains and unnecessary detail has been removed. These maps lack scale, and distance and direction are subject to change and variation, but the relationship between points is maintained.

[2] A **sociogram** is a graphic representation of social links that a person has. It is a graph drawing that plots the structure of interpersonal relations in a group situation.

Figure 2.1: An abstract sociogram
(Courtesy of Complexity Labs, 2016)

Figure 2.2: Sociogram of workers in a sawmill
(Courtesy of Estrada & Knight, 2015)



The *path length* or *degrees of separation* (number of *ties* separating particular *actors*) is a common and useful measure. It has been estimated that any two people in the world can be connected through six *ties* that is, there are only *six degrees of separation* between anyone (Estrada et al., 2012).

Importantly, different network topologies have different levels of predisposition to change based on their inherent properties. That is, network connectivity can be a double-edged sword (Colchester, 2016). Networks with strong integration and uniform connections across the network (*centralised networks*), are generally at greater risk to random network changes than those with more *hub and spoke* arrangements (*decentralised networks*). However, large changes can be achieved through the strategic targeting of important or critical *actors* in the decentralised network type. Colchester (2016) explains that the level of predisposition to change in a network is known as *network robustness*.

Social network models

There are three main social network models (also knowns as *social network constructs*) used by social network researchers (Hansen, 2012; Kadushin, 2004). The selection of the type of network model generally defines and limits the type of social network analysis that can be performed, and therefore creates limits on the type of information that can found.

The first model is the *ego-centric network*, the network that is easy to relate to, and often associated with the term 'social network', because it describes the *set of connections and relationships* around an individual person. These are often difficult to fully construct because the vast majority of people are hard pressed to identify all the people they know well, let

alone identify all the people that they have contact with, or exchange information with, on any given day (Kadushin, 2004). Ego-centric networks can therefore be considered quite open networks, where many of the connections and relationships that exist are not able to be quantified. Researchers have estimated that, on average, most adults have between 300 and 5,000 people in their personal networks (Kadushin, 2004). However, these types of networks are often constructed and analysed as *closed networks*, where only a specific part of the ego-centric network is identified and defined, such as a network of *known* family and friends.

The second network model, a model often used in social network research to understand the impact of group dynamics on individual behaviour, is known as the *socio-centric network* (Hansen, 2012). These networks contain a specific and known group of people, such as a classroom of children, or a team of work colleagues. These are considered *closed networks*, where all of the individuals are known to each other, and the interactions between them clearly defined. The location of individuals within these networks provides a good understanding of how information flows around the network, what pathways exist, and who may be most influential in promoting or inhibiting the flows of information. *Centrality* is a measure that provides information on how influential, or significant, an individual is within the overall network. Issues of centrality are important in socio-centric networks. It is clear to see why this sort of network analysis may be useful to a teacher trying to improve learning outcomes for an individual, or for senior executives in a large organisation trying to improve organisational performance.

The third and final social network model is simply known as the *open network*, where the number of connections and relationships cannot be fully quantified (Hansen, 2012). These are often the most interesting but the most difficult, networks to study. This model is often applied to research investigations of whole populations, where network boundaries cannot be fully defined.

Working with social network data

Social networks, like many complex networks, tend to generate clusters or sub-populations within the network. In social network theory these clusters are called *cliques* (Colchester, 2016). The *cliques* themselves operate like smaller networks within the larger networks. Social network theory therefore applies to both small groups of people and large global systems (Kadushin, 2012). As Kadushin (2012) explains, while there are different emergent

properties at different system levels, they are not entirely different forms of organisation, but rather extensions of organisation (from the lower level to the higher level).

People also have the ability to do, what is termed, *self-organisation* (Capra, 2015). Many human-based organisations are hierarchical (with chains of command), providing different levels of organisation, while in societies there are differing levels of social status and control (Brashears & Quintane, 2018). Social networks are therefore "constructed" based on both people's preferences, and the types of communities or environment they live in. That is, people can exist in many different social networks: networks of family and friends; networks of work colleagues; and networks of neighbourhoods and communities.

The *strength of weak ties* theory shows why some social networks are more open to new ideas, while dense, and strongly interconnected networks, tend to be more closed (Brashears & Quintane, 2018; Granovetter, 1983). In complex systems, there are the additional complications of feedback loops (both positive and negative), which enhance, or limit, the ability of particular network types to adapt and evolve (Capra, 2015). For example, in a socio-centric network such as a private company, the ability to evolve and adapt, may be the difference between succeeding in business or not.

Assigning quality to network ties

Relationships or *ties* between *actors* can also exhibit directionality. That is, a relationship which flows in one direction is known as a *directional flow* relationship, while relationships that flow in both directions are known as *symmetrical or non-directional flow* relationships (Kadushin, 2004). However, one of the criticisms in the gerontological literature, regarding social network research, is how the "quality" of social relationships is captured in the data (Fiori, Smith, & Antonucci, 2007). It is possible to identify the *tie* between two *actors*, but distinguishing between positive and destructive *ties* or relationships can be difficult. Interestingly, mathematics applies notations of positive and negative relationships, and the size or amplitude of positive and negative relationships. These are included on mathematical graphs – they are known as *weighted edges* (Estrada & Knight, 2015).

Most social research uses social data from surveys (secondary data). This data commonly contains only limited information on the quality of relationships, which makes it difficult to mathematical assign "quality". Some researchers like Wenger (1994), used their own primary data to highlight the behavioural characteristics of a network type. This made it possible to

see maladaptive networks or destructive relationships (Wenger, 1994). Therefore, many of the limits of social network analysis are really about data availability.

It could be argued that there is not enough emphasis on using the information that currently exists to improve the data collected through social surveys and questionnaires. Some of this may be due to the reluctance of data custodians to either increase data sets (because if surveys become too long people fail to complete them), or to change questions (reducing the ability of data custodians to compare data sets over time). Nevertheless, without a focus on having the right data to improve analytical capability, researchers will continue to come up against the same problems.

Finally, it is also likely that by increasing the number of observational studies in a targeted way, some insight into the quality of relationships may be discovered. Observational studies (qualitative data) would complement longitudinal data being collected, in that observing the behaviour of the network itself, may identify new information. It could also be suggested that through these observational studies, 'quality' could be assigned more definitively (like in discrete mathematics) to social network *ties*. Physical science researchers should also consider the intrinsic value of qualitative studies in studying complex networks, including social networks, and adopt more in-depth observational studies in their research. Studying behaviour from an observational perspective, can assist with understanding the limitations of behaviour as observed from a systems perspective. For example, cultural and social boundaries are important to the interpretation of data regarding networks about people.

Concluding remarks

Social network theory offers a robust way of interpreting human behaviour in societies. The social network model (or construct) enables people to be grouped in different ways to investigate a given phenomenon. Social network theory, and its 'mothership', network theory, comprise concepts, such as *network density* and *network robustness*, which help to explain why some networks are more adaptable to change than others. This makes social network theory an appropriate theoretical framework for this study which seeks to explore how older people, through the lens of a network typology, access social support in later life.

Chapter Three: Review of the Literature

Introduction

This chapter is presented in three sections. The first section reviews the literature pertinent to social support in older age. Concepts and definitions, as well as older people's perspectives on social support, and the structural ties that make up the informal network, are reviewed and discussed. This section also reviews the evidence around help seeking behaviour in older age, and the challenges that often exist at the interface between formal care and social support. The second section of this chapter comprises a review of the literature on how social support is measured, the challenges in measuring social support, and introduces the Wenger *Support Network Typology*. The third and final section of this chapter, presents a brief discussion of the pertinent rural ageing literature.

Social support in later life

Social network analysis requires tools and models for exploring relationships among social actors embedded in networks of social support. It was therefore important for this study to examine the research literature to determine the nature and context of the relevant evidence to understand how social support actually works.

Defining social support

As research requires systematic inquiry, defining key concepts is essential. While social support is a term commonly used in everyday life, that does not necessarily signify there is a general consensus across populations of what this term means, and how it works for individuals. Similarly in research, concepts are not static in the way in which they are defined, used to investigate phenomena, or interpreted to generate solutions to specific problems. To ground this research, a comprehensive discussion of the ways in which social support is defined in the research literature is therefore essential.

While there is broad consensus among researchers on the types of supportive behaviour that make up social support (Bowling, 1991; Chappell & Funk, 2011; Dykstra, 2015; Harasemiw, Newall, Mackenzie, Shooshtari, & Menec, 2019; Holt-Lunstad & Uchino, 2015; Ng, Tilse, & Wilson, 2021; Powers, Bisconti, & Bergeman, 2014; Rutter et al., 2020; Thoits, 2011), there are also a variety of terms that are used to describe social support that, as Chappell and Funk

(2011: 357) point out, "are often used interchangeably without definitional consensus (e.g., caregiving, caring, assistance, interaction, support, informal caregiving and family caregiving)" (Chappell & Funk, 2011). According to Dykstra (2015) this variation in descriptions of social support should not be surprising given the wide range of disciplines in which social support is studied (Dykstra, 2015). However, this suggests that understanding the breadth and variation of social support research is important for successfully navigating the literature and interpreting research findings, with particular cognisance that an individual study is likely to be influenced by the theories and concepts within the discipline the research is being undertaken. Furthermore, confusion around the concept of social support exists, because there are many terms used in the literature to describe the different types of social support. It is therefore important to distinguish between the different types of social support recognised as potentially needed by, and available to individuals, in order explore the existing literature pertinent to defining social support.

Different types of social support

Emotional Support:

There is consensus in the literature that emotional support relates to expressions of empathy, love, trust and caring. Demonstrations of love, caring, esteem, valuing, encouragement and respect are frequently identified (Dykstra, 2015; Holt-Lunstad & Uchino, 2015; Shor, Roelfs, & Yogev, 2013; Suanet & Antonucci, 2016; Thoits, 2011). In earlier literature this may be referred to as 'affective' or 'expressive' support (i.e. Gibson & Mugford, 1986; Litwin & Landau, 2000).

Informational Support:

This term relates to the provision of advice and guidance, often used to support decision-making or solve problems (Dykstra, 2015; Rutter et al., 2020; Shor et al., 2013; Thoits, 2011; Wenger, 1984). In the literature, informational support has also been used more specifically to mean the provision of medical information (Frohlich, 2014), or information that assists in dealing with stress (Holt-Lunstad & Uchino, 2015).

Instrumental support:

Representing the more concrete, practical type of support that can be needed in later life, instrumental support has been described as simply as doing something helpful (Frohlich, 2014), through to the provision of tangible goods, services and aids (Suanet & Antonucci, 2016), and offering or supplying assistance with practical tasks or issues (Thoits, 2011). This

type of support is also referred to as tangible support, tangible aid or practical support in the literature.

Belonging support:
Belonging support describes the social interactions within shared activities that provide individuals with a sense of social belonging (Holt-Lunstad & Uchino, 2015). There is debate in the literature that social belonging and companionship exist outside the concept of social support (Dykstra, 2015; Thoits, 2011) so the use of this term is limited.

Financial support:
This type of support pertains to monetary exchanges or aid and while it may be distinguished as a type of social support, it is often found nested within the term *instrumental support* (Holt-Lunstad & Uchino, 2015; Ng et al., 2021).

Affirmative support:
An older term, affirmative support was used to describe ways in which social support helped to augment or maintain self-identity (Litwin & Landau, 2000).

Functional social support:
A term used to collectively group different types of supportive behaviour. Also considered to be the 'functional aspect' of social support, functional social support is frequently identified in the literature as the emotional and instrumental support available to an individual (Bowling, 1991; Fiori et al., 2007; Harasemiw et al., 2019).

Structural social support:
A term used to portray the size and cohesiveness of a person's social network. Also considered to be the 'structural aspect' of social support, structural social support determines the level of access an individual has to functional social support (Thoits, 2011). Structural social support is not a term used often in the literature, with researchers more commonly referring to the social network, network ties or the structural ties between individuals.

Perceived social support:
There is consensus in the literature that perceived social support is an individual's perception of the availability of functional social support within their social network. Perceived social support is considered to be a good measure of functional social support (Holt-Lunstad & Uchino, 2015; Powers et al., 2014; Rutter et al., 2020; Zee & Bolger, 2019).

Received social support:

In the literature, received social support is an objective measure of the functional social support received by an individual (Holt-Lunstad & Uchino, 2015).

It is clear that some of the mutability in terms is due the evolution of the concept of social support over time. The Wenger Support Network Typology was developed from research that predominantly took place through the 80's and 90's, so terms used by Wenger and other researchers in earlier literature no longer exist in more recent literature. For example, the older terms of affective support and expressive support (i.e. used by Wenger, 1984; Gibson & Mugford, 1986; Litwin & Landau, 2000), are now generally captured by researchers within the term 'emotional support' (Dykstra, 2015). Some terms are also used more frequently than others because they are useful. For example, functional social support is commonly used when it is not required to distinguish between the types of supportive behaviour.

Towards a working definition of social support

The work of Wenger and Tucker (2002) that inspired this research to focus on whether the Wenger Support Network Typology could be effective in the Australian context, provides a good starting point to consider the definitional parameters of social support. Wenger and Tucker (2002: 29) describe an older person's support network to be:

> *All those people with whom an older person living in the community is in regular contact and who provide practical help, support and advice.*

While this definition appears to be quite simplistic, it is clearly stating that supportive behaviour is bounded by the membership of an older person's social network. Gray (2009) offers a similar focus to Wenger and Tucker (2002) by highlighting that the availability of social support relies on the strength of the network ties and social relationships that exist within the social network. While she clearly sees the value of relationships in social networks, Gray (2009: 6) articulates social support through the concept of social capital:

> *Social capital is defined as the array of social contacts that give access to social, emotional and practical support. The support is an outcome of network ties, the quality of relations with others, their practical availability, the values that they hold, and the trust placed in them.*

Implicit in taking a network approach is the assumption of interpersonal interactions within the network, although Ng, Tilse and Wilson (2021) refer more openly to transfers of different types of support within the social network in their definition, and Bowling (1991) describes exchanges as an interactive process.

> *Social support, understood as transfers of financial, instrumental, emotional and informational support within the social network, is associated with life satisfaction and wellbeing.*
> (Ng et al., 2021: 1)

> *Social support can be defined as the interactive process in which emotional, instrumental, or financial aid is obtained from one's social network.*
> (Bowling, 1991: 69)

While Ng and colleagues (2021) focus the reader to think about the links between social support and life satisfaction and wellbeing, Litwin and Landau (2000: 215), more specifically, draw the reader's attention to the importance of social support in maintaining everyday life:

> *Social support is defined as the range of interpersonal aids that people require for daily functioning such as augmentation of self-concept, sense of belonging, cognitive guidance, concrete assistance in fulfilling tasks, and feeling loved and admired.*

The notion that social support is a part of everyday life was also recognised by Thoits (2011). Thoits (2011) identified that many people fail to recognise the reciprocal process of social support in everyday life, because much of the assistance exchanged between people is so minor and so commonplace, and often taken for granted, that it is largely invisible. Unfortunately, Thoits (2011: 146) loses this important perspective on reciprocity in her definition of social support.

> *Social support typically refers to the functions performed for the individual by significant (i.e., primary) others, although I will argue that these functions can be supported by secondary group members as well. The most frequently mentioned functions are emotional, informational, and instrumental assistance.*

While Suanet and Antonucci (2016: 707) are more explicit in their definition about the concept of reciprocity in social support, they chose to de-emphasise the important perspective of the structural ties that allow people to access social support with:

> *Social support can be defined as the giving and receiving of a support, often further specified as emotional and instrumental support*.

This lack of inclusion of the structural aspect of social support in the Suanet and Antonucci (2016) definition was unexpected, because in earlier literature, Antonucci (with other colleagues) included references to network ties in discussions about functional social support. For example, Fiori, Smith and Antonucci (2007: 322) define functional social support as:

> *The exchange of different kinds of support (emotional and instrumental) between network members, as well as the proportion of network members considered to be emotionally close.*

Anchoring social support definitionally to the social network avoids confusion and separates the types of support that come from social relationships from the types of support available through formal service provision. Furthermore, anchoring the concepts of reciprocity and social capital to social support, implies that caveats (or societal norms) exist on the types of support that can be expected from social relationships. This is further strengthened by definitions indicating social support is part of everyday life (Litwin & Landau, 2000; Thoits, 2011). However, one of the challenges facing social gerontologists is how terms like social support apply (and are interpreted) across the diversity of everyday life found in older populations. As Windsor, Curtis and Luszcz (2016: 187) note, surviving to the 'fourth age', or ages 85 years and older, is often accompanied by significant declines in health and functioning, whereas "the third age for many is a period of vitality and engagement". One solution, as described earlier by Chappell and Funk (2011), is to ensure that all terms in use are conceptually defined. For example, Chappell and Funk (2011: 356) point out the term 'caregiving' was previously defined by Chappell in 1992 as a specific type of social support "provided to seniors because their health has deteriorated, and they can no longer function independently in areas where they previously did". However, Chappell and Funk (2011: 357) also highlight that:

> *Even caregiving as a concept has been challenged, either as ignoring or excluding the "normal" assistance that occurs within reciprocal exchanges,*

> *negotiations and interdependencies within family relationships and interactions or, conversely, as including normal exchanges of social support as caregiving.*

This suggests that there is a lack of understanding of the types of tensions that may develop in social relationships, for people who develop chronic ill health or irreversible functional decline. The term 'caregiving' as it is defined by Chappell, involves regular support (compensating for lost skills and functions) that exceeds the normal reciprocal process of social support. As Keating, Wenger, Otfinowski, Fast and Derksen (2003) found, frail older people often exhaust the supportive capacity of their informal network and need to rely on professional services to meet their daily functioning needs. Importantly, this does not mean that 'caregiving' and 'social support' cannot coexist. Requiring the help of a family caregiver and professional services in everyday life does not mean that an older person has no capacity for 'social support' within their informal network. There is evidence that the introduction of professional services from informal caregiving, can help to restore the normal balance of social support within an older person's network.

Furthermore, without distinguishing between 'social support' and 'caregiving', the body of literature on 'social support' in older age could be interpreted to be about the provision of different types of support to an older person, rather than the different types of reciprocal support that occur in social relationships in later life. Of particular concern is that a lack of distinction between these two related but distinct terms, is likely to perpetuate the long-standing criticism of research, policy and practice (in all areas of society), in that the contribution made by older people more broadly is not recognised.

Perhaps there may be benefits in aligning definitions between social support, caregiving and formal care, to better highlight the differences between them. For example:

> *Social support can be defined as supportive action/s negotiated and exchanged between people within a social network*
>
> *Caregiving (or informal care) can be defined as supportive action/s provided regularly to an older person by other people within a social network.*
>
> *Formal care can be defined as supportive action/s provided to an individual by an employee (or unpaid volunteer) from a registered service provider*

Taking this approach would highlight, that the term ‘social support’ refers to the normal reciprocal exchanges and negotiations that occur within social relationships, while the term ‘caregiving’ implies regular care and support from social relationships that exceed a normal reciprocal capacity. The inclusion of a definition for formal care provides a way of separating the role of the professional volunteer from family and friends. Research suggests that professional volunteers are increasingly substituting roles previously provided by family caregivers (and therefore developing relationships not unlike that of social relationships), while at the same time family caregivers are increasingly taking on roles previously provided by formal service providers (Shaw, Riffin, Shalev, Kaur, & Sterling, 2020). Shaw and colleagues (2020) report that it is as yet, too early to tell what the implications of this may be for the social support for older people.

Finally, the distinction between ‘social support’ and ‘caregiving’ and ‘formal care’, as captured in the definitions above, is important for this research, because the strength of the Wenger Support Network Typology lies in providing insight into how social support evolves and changes in later life. While this knowledge also provides some indication of who is the most likely to be available for ‘caregiving’, or who may already be providing ‘caregiving’ roles, the focus is on how changes in health and morale are likely to impact on the social networks of older people, and consequently on the usual everyday support they enjoy through existing relationships. For example, earlier research found that peer relationships are particularly important for morale in later life compared to family relationships (Litwin, 2001; Phillips, Bernard, Phillipson, & Ogg, 2000; Wenger, 1997).

In summary, research requires systematic inquiry - therefore defining key concepts is essential. Defining the term ‘social support’ is no exception. While there is currently no single agreed definition of social support used by all research disciplines, there is broad agreement on the different types of social support people access in everyday life. Unfortunately, there is evidence that the term ‘social support’ is often used interchangeably with other terms such as ‘caregiving’ without definitional context, creating a misunderstanding of what constitutes social support in older age. Defining the term ‘social support’ within a nested group of definitions with ‘caregiving’ and ‘formal care’, is likely to improve communication between researchers, policy makers and clinicians about what is, and what isn’t, social support. The participation of older people in developing a definitional consensus of terms and concepts, will also ensure they reflect the ‘on the ground’ experience.

Older people's views about social support

Unfortunately, there are limited studies reporting on older people's views and experiences of social support. Furthermore, Kendig and colleagues noted that it can be difficult obtaining robust information about the different kinds of social support older people value, because they sometimes feel compelled to provide socially desirable responses (Kendig, Koyano, Asakawa, & Ando, 1999). Nevertheless, a small number of studies have attempted to outline the supportive behaviour older people value and find helpful.

Social relationships and everyday life

Older people consider social support to exist in everyday life as a normal function of social relationships. The way older people describe social support is therefore grounded in everyday activities that involve people from their social network (i.e., family, friends, neighbours and other people they may know). A good example of this came from qualitative research with older people in Sweden. Dunér and Norström (2007:75) reported:

> *The interviewees stressed the importance of mutual satisfaction within their relationships. To give and to receive were described as natural to the relationships within their informal support network. Sometimes the interviewees simultaneously gave and received services and goods, for instance when they financially compensated friends or the relatives who helped them. Others gave small services in return, such as watering plants or looking after a friend's house… Some of the interviewees received help from those in their informal network that they had helped when they were younger and were more vigorous.*

In this research, Dunér and Norström (2007) found clear evidence of the presence of negotiation between parties (e.g., in determining the type of support to be given and received), as well a description of the types of exchanges that may occur (e.g., financial compensation or in-kind practical support). Furthermore, this research brings alive the concept of social capital as described by Gray (2009), where social support is not necessarily a simultaneous exchange process, but rather an exchange process where the reciprocal support may be 'drawn down' at a later time, like savings from a 'bank' of social support resources (Klein Ikkink & van Tilburg, 1999).

Another example comes from qualitative research conducted with older Australians, where one female participant (Healthtalk Australia, 2022) describes her involvement with her grandchildren. This time the almost invisible nature of everyday reciprocal interactions, as described by Thoits (2011), and the complex web of giving and receiving that exists within families across generations, is evident.

> *… Once they [children] have their own lives you're not as big a part of their life as you were before. But when the family [grandchildren] comes along that's when you start and you're needed again because your experiences in your life then teach them or they ask you. And you teach them and you're able to spend time with the children when they are little and you teach them different things. You can teach them things that their parents maybe don't have time for. You can read to them. You interact with them, you play with them. I mean I play football with my seven-year-old grandson and he thinks it's the best thing since sliced bread. Nanny, please play football with me and this is wonderful because you're teaching them, but you're also enjoying them.*

Describing social support

Older people were found to describe social support in much the same way as researchers, but more simply (no jargon), and with less distinction between types of social support. The terms most commonly used by older people were emotional support and practical help.

Emotional support

The term 'emotional support' was used to describe a broad range of supportive actions including; 'keeping up morale', providing comfort and reassurance, demonstrations of caring and love, creating feelings of happiness and a sense of belonging, as well as giving and receiving advice and guidance to help solve problems (distinguished by researchers as 'informational support'). Older people also included the concepts of friendship and companionship (argued by some researchers to be separate concepts from social support) when they spoke about giving and receiving emotional support. In their review of qualitative research ageing studies, Abdi and colleagues (2019:8) found:

> *Participants reported feelings of happiness, joy and pleasure when interacting with family and friends, valued peer support as an important source of*

> *information and companionship, and identified relationships with family and friends as the most important thing in their lives.*

Older people frequently referred to the access of advice and guidance from families and friends as important, because it gave them both comfort and confidence with problem solving and decision making (Abdi, Spann, Borilovic, de Witte, & Hawley, 2019; Dunér & Nordström, 2007; Gibson & Mugford, 1986; Phillips et al., 2000; Wenger, 1984, 1992). A good example of this came from Dunér and Norström (2007:79) who reported:

> *For many of the interviewees, it meant a great deal having someone to turn to if they really needed support or friendship. It generated a feeling of security, to know that someone would help you straighten out issues that had arisen.*

Dunér and Norström (2007) also heard how difficult it was without such support, and about the levels of anxiety experienced by older people when they had to make difficult decisions on their own. Furthermore, older people were found to gain feelings of safety and belonging in their neighbourhoods from the emotional support they received through their informal network (Barker, 2002; Davis, Crothers, Grant, Young, & Smith, 2012; Dunér & Nordström, 2007). Neighbours and friends were particularly important sources of emotional support for older people with families living geographically distant to them, or for older people who had never married or were childless (Barker, 2002; Wenger, 2009; Wenger & Burholt, 2001). Phillips and colleagues (2000) found that the emotional support older people felt able to give and receive, was particularly valued once their abilities to provide practical help to family and friends was compromised as a result of chronic illness or reduced mobility.

Practical help

Older people reported both receiving and giving practical help to family, friends and neighbours, although, as noted by Phillips et al. (2000), giving this type of support often lessened with the advent of chronic illness or irreversible functional loss. The most common practical help older people received related to domestic or household chores; meal preparation; organisation and coordination of services and medical appointments; collecting the mail (post); and transport to shops or medical appointments. The practical help older people provided to others included: transporting friends to shops, social activities, church or medical appointments; doing small jobs for neighbours (such as putting out rubbish bins or watering plants); providing financial support to relatives and childcare for grandchildren;

giving care for disabled or unwell relatives; and volunteering in the community (often supporting other older people through programs such as 'meals on wheels') (Abdi et al., 2019; Dunér & Nordström, 2007; HealthtalkAustralia, 2022; Phillips et al., 2000).

Interestingly, Dunér and Norström (2007) noted from their interviews with older people that much of the practical help older people were receiving from their families, was the sort of help that could be provided by formal services. However, there can be barriers to accessing formal care including: not understanding how to apply for formal services; not being assessed as eligible at a given point in time (noting it is impossible for health care professionals to undertake a continuous assessment process); being on a waiting list (due to supply or demand issues); or not actively seeking help due to an individual's belief about the quality of the services available (Geerlings, Pot, Twisk, & Deeg, 2005). Given that older people in the Dunér and Norström (2007) study were already in receipt of some formal services, the value of informal support was in providing meals that could be described as 'family favourites' – for example, cakes and buns. Barker (2002) also found that formal services could not fully substitute the types of support provided through social relationships.

In summary, older people talked about social support using fairly simple terms, but they shared similar views to researchers when it came to describing what constitutes social support. Notably, it was the way they described emotional support that was the most different. Older people described emotional support to simply be all the support that is not captured as practical help. Importantly, older people saw social support as a normal part of social relationships in everyday life, recognised the concept of social capital, and sought mutual satisfaction within their social relationships.

The informal network – structural ties

The size and cohesiveness of a person's social network are important factors in understanding the availability of social support in older age. As Thoits (2011: 146) points out, access to the functional aspects of social support "depends on having one or more structural ties to other people". Structural measures of social support commonly include marital status, network density or size (number of social contacts) and frequency of contact with social ties, household composition, and measures of social integration or social isolation (Holt-Lunstad & Uchino, 2015; Powers et al., 2014; Rutter et al., 2020). The impacts of widowhood and childlessness on access to social support and caregiving are often discussed within the gerontological literature (Deindl & Brandt, 2016; Gironda, Lubben, & Atchison, 1999;

Graham, 2018; Křenková, 2018; Ng et al., 2021; Penning & Wu, 2014; Wenger, 2001c; Wenger, 2009; Wenger & Burholt, 2001; Wenger, Dykstra, Melkas, & Knipscheer, 2007; Wenger, Scott, & Patterson, 2000).

Early studies in Australia found that the 'framework' of an older person's support network was generally established well before older age (Mugford & Kendig, 1986). Mugford and Kendig (1986: 59) identified a number of life events that were important in shaping support networks and social capital.

> *To be born female or male sets in train gender conditioning which affects abilities to mobilise support 70 years later. To marry in mid-life is particularly important in enabling men to have supportive relations both with and through their wives in old age. To have children potentially provides both genders with what usually are the most supportive of ties; those grounded in filial obligation and attachment… Conversely, divorce can dissolve many of those ties; especially amongst men. While never married women often construct alternative support systems, these ties may have less potential for providing and receiving large amounts of instrumental support. Never married men are even more vulnerable given their marked limitations in forging close informal bonds.*

Importantly, these research findings are still largely relevant today. While there has been social and cultural change in Australia over the last forty years, research around the world continues to find that families, particularly adult children, play a significant role in the support of ageing parents, that never married women often fair better in older age than never married men, and that the experience of ageing for men and women is different (Chappell & Funk, 2011; Cooney & Dykstra, 2011; Graham, 2018; Hawthorne, Camic, & Rimes, 2018; Iveniuk, Donnelly, & Hawkley, 2020; Křenková, 2018; Shaw et al., 2020; Stuifbergen, Van Delden, & Dykstra, 2008; Wenger, 2009; Wenger & Keating, 2008).

This position is also supported by other researchers, who argue that taking a life course approach in the exploration of social support and caregiving in later life is important (Antonucci, Ajrouch, & Birditt, 2013; Antonucci, Fiori, Birditt, & Jackey, 2010; Ng et al., 2021; Scharf, 2020). Antonucci and colleagues (2010, 2013) argue that the processes and mechanisms through which social relations develop, and how they influence or are associated with health in later life, are impacted by life events. While Mugford and Kendig (1986) point

to gender, marriage and fertility shaping an older person's support network and social capital, Scharf (2020) and Ng et al. (2021) present evidence that broad societal forces, such as inequality and poverty in early life, follow people into older age - powerful forces that shape their relationships and experience of ageing. The life course perspective therefore provides valuable insights to our understanding of the experiences that impact social networks and access to social support in older age.

Most people play multiple roles within the social network. For example, women who are daughters may also be sisters, mothers, wives, friends and neighbours. These roles shape the social support capacities of an individual at a given time. Miller (1981) used the concept of the 'sandwich generation' to describe the particular challenges facing middle-aged adult children with dual responsibilities to ageing parents and their own children. Recently this concept has been further expanded by Manor (2021:340), who poses the 'double sandwich' concept to distinguish the sandwich generation, from woman who are now grandmothers facing competing responsibilities because of the increased longevity of their own parents.

> *The concept of the "double sandwich" that I am proposing here intends to emphasize the double aspect of these women's location in the sandwich. In other words, they are located between elderly parents and their own children, but also between their elderly parents and their own grandchildren.*

While Mugford and Kendig (1986) suggested that having children provides older people (both men and women) with access to care and support grounded in filial obligation and attachment, other authors point out that it should not be surprising that adult children support their parents. Through a lens of social support, Wenger (2009) and Phillips et al (2000) point out that adult children are often recipients of support from their parents, particularly in relation to financial aid and inheritances, and caring for grandchildren. Dykstra (2015:3) adds that within families, there is clear evidence that significantly more support "goes down the generational line than goes up", and that the "role reversal" only occurs when older people encounter difficulties functioning independently. This suggests that much of the visible care and support that appears to be filial obligation or attachment in later life, may simply be the provision of reciprocal support. It is acknowledged, however, that the attachment that exists between parents and children is likely to be an important factor in whether the support being provided to older people is through the lens of reciprocity or filial obligation in keeping with social norms and societal expectations. This is supported by the

research of Stuifbergen et al. (2008), who found that attachment was more important for reliable social support than filial obligation and noted this may be due to the reciprocal support exchanged in good quality relationships. Wenger (2009) also found that men and women who were childless tended to have closer relationships with nieces and nephews when compared to men and women who were parents. She found that the nieces and nephews with whom an older person had the closest relationships with, were generally the children of their most proximate sibling.

The proximity of network members is particularly important for accessing instrumental support (e.g., changing a lightbulb or mowing grass). While adult children and grandchildren can be mobilised from a distance to provide what Dunér and Norström (2007:74) describe as "periodic support"; that is, a visit for a continuous period (for example, in the case of a short-term illness or transition from a hospital stay), families are unable to provide regular instrumental social support or caregiving to older people from a distance. As Stuifbergen and colleagues (2008: 427) point out:

> *Increasing geographical separation distances may pose a problem for support giving in the future, depending on how it is organised. It is important to make a distinction between practical and social formals of support … staying in touch is important, but does not solve the practical problems of daily life; after all, a telephone conversation or email exchange will not clean the house or do the grocery shopping.*

Importantly, there is evidence that some friends and neighbours are both available and willing to provide regular caregiving to older people in the absence of locally based family (Barker, 2002; LaPierre & Keating, 2012). One Australian study, looking at older people experiencing hearing loss, found that families became increasing important with the onset of hearing disability (Lind et al., 2003). This is consistent with other literature reporting on the experience of disability and reduced functioning in later life. For example, the importance of spouses and partners in roles of caregiving for frail older people, and for older people in their final year of life, has been demonstrated (Bijnsdorp et al., 2019; Broese van Groenou, 2020; Keating et al. 2003).

Widowhood has a particular impact on the informal network of older people (Iveniuk et al., 2020; Powers et al., 2014; Wenger, 1992; Wenger & Shahtahmasebi, 1991). Iveniuk and

colleagues (2020) found that the death of a spouse, but not the death of a family member or friend, was associated with increased support from members of the informal network. They also found that the loss of a spouse was associated with older people spending more time with family, and more frequent participation in religious services, but not in volunteering activities. In contrast, the death of other confidants had little impact on older adults' social lives, which the authors suggested pointed to the robustness of their networks to nonspousal loss (Iveniuk et al., 2020). While this research makes important contributions to our understanding of social support in widowhood, it is also possible to see that this research could be strengthened by taking a network approach; that is, particular social networks are likely to be more affected by the death of a spouse that others. For example, Wenger (1991) found that older people in the private restricted network type almost always relied exclusively on a spouse, or if they were unmarried, a close friend. In the event of that person's death, there were no other people within the informal network readily available to help. Furthermore, the research of Iveniuk et al. (2020), is likely to relate to a majority view, because most older people are in robust networks where this sort of response in widowhood is to be expected. However, without taking a network approach, this sort of research will continue to generate evidence representative of a large part of the population, without reflecting the real challenges facing those with a small number of network ties, or those with network ties likely to provide only limited social support. Furthermore, this research study may suggest to policymakers and clinicians, that with the death of a spouse there will be family support, when network research has clearly demonstrated that this is not the case for everyone.

Similarly, Power et al. (2014) found that there were differences in the types and levels of social support provided to widows by members of their informal networks. For example, the emotional and instrumental support level was high in the early stages of bereavement but tended to taper off over time. Powers et al. (2014) also found that while family support decreased over time, support from friends was reasonably stable. While they acknowledged that one of the limitations of their study was a lack of baseline social support, taking a network approach may have enabled firmer conclusions to be made regarding the study sample, and therefore, the implications for the study findings for a broader population.

Childlessness in later life also has a particular impact on social networks. In keeping with the sentiments of other researchers on the importance of the life-course perspective for

social support, Graham (2018:1) opens her article with, "the reproductive choices a woman makes in her life, and indeed those outside her own control, can have consequences for both her social connectedness and her health and wellbeing across the life course". Graham (2018) found different health outcomes between women with children and women without children. Specifically, there were poorer health outcomes for women without children, after taking into account satisfaction with the number of close friends, prior self-reported health, age, partner status, employment status and highest level of educational attainment. Graham (2018: 29) suggested that further research was required "to better determine if there are differences in social support between women with and without children, including the role and types of social support, and if these negate potential negative health outcomes for women". Interestingly, Křenková (2018) concluded that despite considerable research over the last twenty years, there continues to be no consensus on what the impact of childlessness has on social support in old age, because it is a highly complex issue.

Wenger (2009) argues that sibling relationships are particularly important for older people without children (for either married couples or never-married singles). She found that sisters were more important for single men and to all women, while brothers appeared to be particularly important for childless married men. Dorrance Hall and Shebib (2020) also found there were different levels of closeness between siblings, and that the types of support available in later life depended on the closeness of the relationships. As Dorrance Hall and Shebib (2020:612) point out:

> *The sibling relationship is unique among interpersonal relationships because it is long lasting (i.e., cradle to grave), typically nonvoluntary, meaning they are not chosen by either party, and nearly everyone has a sibling… The sibling relationship is also distinct among family relationships because the sibling relationship tends to be more peer-like due to fewer differences in power and resources than other family relationships.*

The closest sibling relationship was commonly described to be with a sibling of the same sex and closest in age. Burholt and Wenger (1998) noted the importance of gender in sibling relationships; finding that close sibling relationships in later life were the most common between sisters and least often between brothers. Importantly, siblings have been shown to be important for morale across the life course (Dorrance Hall & Shebib, 2020; Litwin, 2001; Wenger, 2001c; Wenger, 2009).

In earlier research, Wenger (2001:101) found that older childless women (whether they were married or had never married) were more likely to "seek social support from friends, nieces and nephews and neighbours". This reflects the research findings described earlier by Mugford and Kendig (1986), who identified that older never married women often built alternative support systems; that is, support systems without a reliance on adult children. While older childless married men tended to rely on their wives for social support, Wenger (2009: 1254) found that "as time went on, both women and single men tended to develop a close relationship with and rely on one niece, or less frequently one nephew. Nieces typically offered support and instrumental help, while nephews gave financial advice and management". This is consistent with the gender-type specialisation often seen in social support as described by Dykstra (2015:3), where "men are more likely to engage in activities such as odd jobs in and around the house, and paperwork, bills, and finances, whereas women are more likely to perform household tasks and personal care".

In contrast to the focus on instrumental support often provided by families, interactions with friends are often characterised by fun and enjoyment (Wenger et al., 2007). Friends can relate to issues particular to a generation, and often have similar values and shared interests in keeping with the life course phase. However, as voluntary ties, friendships also require more effort to maintain and are considered to be at a greater risk of dissolution; that is, reciprocity is important in ties of friendship (Dykstra, 2015; Jerrome & Wenger, 1999). Wenger and colleagues (2007: 1434) compared friendships in later life between Australia, Finland, Germany, Israel, Japan, the Netherlands, Spain, the United Kingdom and the United States. They found that social support from friendships appeared to be much higher in Australia when compared to all other countries. In Australia, friendships were found to be particularly important for formerly married men (with or without children) and for formerly married childless women. This is in keeping with other research that shows, following divorce, men tend to experience a more drastic reduction in social support from their children compared to women (Křenková, 2018; Shor et al., 2013; Stuifbergen et al., 2008). Importantly, friendships and relationships with people outside the family may only be known to the older person themselves and be relatively invisible to adult children. As Barker (2002: S166) explains:

> *The vast majority of non-kin relationships probably blossom and fade without anyone other than the immediate interested parties being aware of their existence. … Though variable in form, these relationships seem to work*

> *precisely because they are "natural" (i.e., unregulated), based on sentiments and activities that are mutually meaningful and rewarding to the participants, as well as congruent with the cultural values about families, neighbours, and care.*

LaPierre and Keating (2012) found that friends were more likely than neighbours to assist with personal care, bills and banking, and transport, while neighbours were more likely to assist with home maintenance. In earlier research, Wenger (1990:163) identified that neighbours often play two key roles: as the first line of defence in a crisis "which is often overlooked because formal or family help usually takes over once the emergency is recognized"; and in monitoring "long interval needs such as chopping wood, shopping and transport". Neighbours also help to promote a sense of security and belonging in the place people live (Barker, 2002; Dunér & Nordström, 2007; Wenger et al., 2007).

Finally, there appears to be two schools of thought on the changes to structural ties within the social networks of older people. There are those that make the case that the number of structural ties with the social networks of older people decrease over time due to the loss of peer-aged friends and siblings (Appau & Awaworyi Churchill, 2020; McLaughlin et al., 2012). There are others who find evidence that the social networks of older people do not necessarily reduce over time but may adapt and acquire new members (Jerrome & Wenger, 1999). For example, while the loss of peers (siblings and friends) is more prevalent for people reaching 85 years or older, there may be new relationships with grandchildren and great-grandchildren as well the children and grandchildren of close friends. Older people who enjoy social activities often grow their networks with friends and extended family (e.g., cousins or nieces and nephews) in retirement, having more time to do so.

Importantly, it is possible to see that both schools of thought may be true and can co-exist if the social network is viewed through the lens of a network typology, where some networks are less adaptable, and will therefore reduce over time, while others will be more adaptable, and may in fact grow in later life as people have more time to invest in their relationships. It will be important for researchers to consider this perspective when referring to the sum of structural ties in future research. Again, sweeping statements that indicate a general trend (one size fits all approach across a diverse older population) will mislead policy makers and practitioners in the complexity of social support in later life, which will in turn influence the way they go about improving health and social services for older people.

In summary, the structural aspect of social support is important for understanding the true access to social support for an older person. Structural ties that make up an individual social network usually contain people playing multiple roles within the network, and therefore, their social support capacity can vary at different life stages and in relation to different life events. Network membership will evolve over the life course as the relationships within them change; that is, some relationships will be maintained, some will become more peripheral in their influence, or even disappear, while in others, new members may appear. The value of looking at social support through the lens of a network typology is to identify the sorts of structural ties that are likely to exist in older age, and the support they are likely to provide, based on the complex interaction of interpersonal relationships.

Help seeking behaviour in older age

The majority of older people actively engage with the various members in their social network to provide support or secure support for themselves when it is needed. Social support is generally considered to be a beneficial activity (Dykstra, 2015; Thoits, 2011). However, research has also demonstrated that there can be negative consequences for older people from the help seeking process (Zee & Bolger, 2019). That is, some older people will not actively seek support from family and friends, or formal services, even in the face of demonstrable need (Abdi et al., 2019; Geerlings et al., 2005; Polacsek, Boardman, & McCann, 2019).

Seeking help is believed to be a rational process that involves negotiation with other people (Dunér & Nordström, 2007; Small & Sukhu, 2016). Small and Sukhu (2016) found that when people needed help, they reflected on the relative characteristics of potential helpers within their social network before deciding on whom to approach. Similar findings were also evident from interviews with older Swedish people with Dunér and Norström (2007: 82) reporting that:

> *Many older people were rational actors who consciously used members of their informal support networks to undertake the tasks for which they were thought to be most fit.*

Small and Sukhu (2016:73) argue that the accessibility of individuals in each situation is an important factor in determining who is approached for support; defining accessibility to be "the extent to which a potential helper can be reached without difficulty". The notion of accessibility was raised in earlier research by Small (2013), where he found that when people

needed advice and information, they did not necessarily seek out the people who were closest to them (i.e., most trusted), but rather the most knowledgeable person who was available to them. In the gerontological literature, researchers have consistently shown that where people live in relation to each other, largely determines the types of social support available and the intimacy of relationships. Older people in Britain expressed difficulties in keeping in touch with family and friends due to geographical spread (Abdi et al., 2019). Similar sentiments were found in earlier research, where older people living in close proximity to family had greater access to practical help and assistance around the home (Burholt et al., 2007; Burholt & Wenger, 1998; Keating et al., 2003; Litwin & Landau, 2000; Wenger, 1982; Wenger & Burholt, 2001).

However, in keeping with the argument about accessibility, as presented by Small and Sukhu (2016), it is important to explore access to social support through technology as well as through face-to-face contact. Telephones, mobile phones and computers are commonly described by older people as important tools for keeping in touch, sharing information and accessing emotional support (Bai, Bian, Zhang, & Cao, 2020; HealthtalkAustralia, 2022). New research (Burholt, Percival, & Morgan, n.d.) found that social isolation is significantly mediated by telephones calls and video calls for older people living geographically at distance from their families. Furthermore, Burholt and colleagues (n.d.) reported that 'the telephone call' is the only technology-mediated communication method (comparing telephone calls with video calls, emails, and mobile phone texts) found to be significant in the mediation of loneliness; with the caveat that no communication method is able to fully replace the benefits of face-to-face interactions (e.g., providing physical comfort) for older people.

Interestingly, Burholt and colleagues (n.d.) found that older people spoke more often on the telephone with family members who lived closest to them, rather than family members who lived further away. Wenger (2001c) found that proximity was an important factor in the frequency of contact between late life siblings in rural Wales. Wenger found that weekly or more frequent face-to-face contact was rare (and limited to siblings living near each other), but that telephone contact was more frequent with the nearest sibling (rather than with siblings who lived further away), irrespective of whether they were a brother or a sister. These findings suggest that people who see each other more often, may also have closer relationships in the sense they are more involved in shared activities, and may have shared

interests prompting more communication in general. Wenger (1984) identified that telephones were a common resource for older people living in rural communities as a means for organising activities and summoning help.

The telephone is a particularly important resource for summoning help in more urgent situations. As Phillips et al. (2000: 845) found in their study, older people were encouraged by family members (both adult children and grandchildren) to "just pick up the phone" if they needed urgent help, irrespective of the time of day (or night). Phillips et al. (2000) also found 'speed dialling' capabilities were set up on older peoples' phones (usually preprogramed by family members) to make it even easier to access help in an emergency. However, Small and Sukhu (2016) found evidence that the rational process of seeking help could break down in urgent situations, citing an example of people facing homelessness seeking help from virtual strangers at a bus stop. As shown earlier, neighbours are often an important source of support in emergencies for older people due to their proximity and therefore, accessibility. The research by Small and Sukhu (2016) shows that some people are more vulnerable to life changes compared to others and have limited support or less support capacity within their social networks. The gerontological literature has consistently found that network type is important for understanding the support likely to be available to an individual, particularly in urgent situations (Drennan et al., 2008; Golden et al., 2009; Kendig, 1986; Litwin, 1998b; Wenger, 1991; Wenger, 1994; Wenger & Keating, 2008; Wenger & Tucker, 2002).

Another important finding in the qualitative research conducted by Dunér and Norström (2007:76) was that older people "did not want to intrude on family and friends and generally adapted to the circumstances around them". They used the example of an older woman in her 80's living alone who relied on a friend for assistance, but her requests for assistance had reduced following her friend becoming a grandparent in recognition that this may now be too burdensome or intrusive.

As shown earlier, mutually negotiated exchanges or reciprocity is often the difference between descriptions of social support and caregiving in later life. As Klein Ikkink and van Tilburg (1999: 132) point out, "reciprocity helps to avoid feelings of exploitation or indebtedness" which are important for maintaining relationships. In a study specifically investigating how older people negotiated support from their informal network, Wicks (2019) found that older people only took a direct approach in asking for help from family and friends if recent reciprocity was evident. If reciprocity was not evident, she found that older people

preferred to ‘hint’ that they were not coping well or experiencing challenges, particularly if they were seeking help with Activities of Daily Living (ADLs), or Instrumental Activities of Daily Living (IADLs), and to accept help only when it was offered (Wicks, 2019).

This evidence from Wicks (2019) becomes particularly salient for discussions about older people living in the community with a greater reliance on others to maintain everyday life due to chronic health problems, mobility challenges and other forms of disability. For example, Wenger (1991) found in the face of increasing dependency with ageing parents, adult children in one of her five support network types exhibited overly protective behaviours. She found that this led to increasingly dependent behaviour in the older person over time, which resulted in them becoming socially isolated from friends and other community activities (Wenger, 1991; Wenger, 1994). Other researchers have also shown that an older person’s mental health can be impacted by the very process of seeking and receiving help in older age, if it is not done in a way that is reflective of a reciprocal process (Zee & Bolger, 2019).

Zee and Bolger (2019) found that if social support appeared to be a visible process of help going from to one person to another, then the recipient of support may experience feelings of incompetence, but visible support given responsibly and perceived as caring and understanding, is not associated with negative outcomes. Nevertheless, Abdi and colleagues (2019) reported that older people felt there were differences in their relationships with family and friends following a period of vulnerability, and they cited being patronised and stigmatised as reasons for not seeking further help. There is also evidence that older people experience stigmatisation in seeking professional help. Specifically, that they are not listened to or given enough time to explain their situations and experiences to General Practitioners. Therefore, treatable conditions such as depression are often mistaken for symptoms of old age and are frequently left untreated (Polacsek et al., 2019).

Finally, older people themselves often cite ill-health and physical frailty as reasons for their increased dependency on family members and their inability to sustain relationships, which in turn negatively impacts on their participation in social activities, hobbies and leisure activities. For example, Abdi and colleagues (2019) found that some older people embedded in what appeared to be a strong social network of family and friends, were living with unmet needs and expressed feeling both lonely and bored. Shor and colleagues (2013) in earlier research had pointed out that there were substantial differences in how studies assess support

levels from families, and that further research was needed that directly compared various levels of support.

In summary, the process for seeking help in older age can have both the beneficial outcomes expected from seeking help but may also have negative consequences if the help seeking process itself raises issues of competence, which in turn impacts negatively on an older person's self-esteem and confidence. Seeking help is usually a rational process, and accessibility is an important factor in who is approached for what sort of support. Proximity is particularly important for accessing instrumental support or practical help, while the telephone is an important resource for both summoning help and accessing emotional support, especially for people living at distance from one another. Help that is offered (in recognition of need) and given responsibly within a framework of caring and understanding (in recognition of the importance of reciprocity in relationships), is likely to generate positive outcomes for older people. These findings also have relevance for formal care providers.

Interface between formal care and informal network

It is important to explore the interface between formal care and the informal network. There are social support implications for older people embedded in both robust support networks and less robust support networks who rely on formal care for everyday life.

Professional care tends to be task oriented (centred around the development and adherence to a care plan). Home care professionals are not generally allocated work time to build relationships with the support persons around the older person (their patient or client), in order to gain an understanding of the sorts of social support being exchanged within the social network. This lack of knowledge may generate conflict between home care professionals and the older person and their informal network, if the types of tasks being offered by them vary from what the older person themselves may prefer, what informal caregivers may believe to be important, or impact on other social support that may exist. Shaw et al. (2020: 782) found that a variation in expectations in formal care provision was influenced by the older person's functional and medical needs as well as the skills and availability of informal network caregivers. Shaw et al. (2020) found this was particularly important for older people with dementia, where family caregivers expected home care professionals to have both expertise and patience with older people who were sometimes agitated, resistant to care or difficult to reason with. Australian research also noted the importance of effective relationships between the support networks of older people and home

care professionals for older community dwelling people living with dementia (While, Winbolt, & Nay, 2020). While et al. (2020) found the attributes of home care professionals most valued by informal caregivers were honesty and trustworthiness, genuineness, kindness and caring.

Hengelaar and colleagues (2018: 480) found that in their review of the literature, many home care professionals perceived their role to be that of an expert, rather than "taking a partnership approach in their practice". They noted that even home care professionals that claimed to work in partnership with the informal network, were not truly working in partnership, but were instead working alongside informal caregivers in accordance with the care plan. Hengelaar et al. (2018: 480) identified that home care professionals needed several strategies to take a partnership approach including "sensitive listening, asking enabling questions and not imposing their own views". However, they also pointed out that other authors argued that "these strategies sometimes contradicted the roles and approaches professionals assume in collaboration", where collaboration was interpreted to be about sharing expert knowledge and upskilling informal caregivers where required.

Not unlike other areas of social support, definitions and interpretations of meanings are important for good communication. Earlier research suggested collaboration to be a dynamic negotiation process that is perceived to generate helpful actions (Büscher, Astedt-Kurki, Paavilainen, & Schnepp, 2011). Büscher and colleagues (2011) argue that trust is an important contributing factor for a positive and successful negotiation process, but that informal caregivers will still accept helpful formal care, with or without having a positive relationship with the home care professional, if it aligns with the care they see as helpful to the older person. This evidence becomes particularly relevant in the face of staff turnover and staff continuity issues, and a lack of clinical time (McKenna, Rogers, Walker, & Pope, 2020). However, the confusion in what collaboration and partnership truly look like on the ground is likely to influence the dynamics of control in care provision. This also suggests that older people in circumstances of vulnerability (such as ill health), and with limited informal resources, may be less able to negotiate successfully for the care they need, and may choose to forego formal care to retain their autonomy.

Barker (2002: S166) was able to highlight the different challenge facing older people with non-kin caregivers who often experienced a very different reception from formal care providers.

> *They <non-kin caregivers> are relationships that come to the attention of service providers and policymakers when things gone wrong or are feared to be going wrong. What brings suspicion seems to be, first, a general lack of knowledge about these relationships and, second, pervasive but often erroneous assumptions about the basic nature and motivations for non-kin care; that is, assumptions that non-kin care provision lacks moral underpinnings.*

Barker (2002) found that many older people receiving non-kin caregiving from neighbours also had families and family support. Non-kin caregivers and families often provided complementary support to each other, but it was the neighbour, who due to proximity, was able to help with the day-to-day tasks. These usually included: medication management, meal preparation and cooking. Families did more occasional tasks such as weekly laundry, shopping or paperwork. Importantly, motivations for helping were found to be surprisingly robust, not varying by age or gender, duration of relationship or relationship style (e.g., quality of emotional attachment or degree of intimacy of tasks being performed) and were based in concern for the welfare of the older neighbour and in a moral obligation to help. LaPierre and Keating (2012: 1459) added that neighbours and friends in their study were often younger than the older person they were caring for, countering views that "younger adults demonstrate less 'neighbourliness' than older adults in terms of frequency of contact with neighbours, and the proportion of neighbours known". However, LaPierre and Keating (2012) also noted that there is evidence that neighbourly help tends to decline with age. Importantly, formal care providers need to be aware of the scope of social support and informal caregiving available to an older person, to ensure they don't inadvertently limit support valued by both the older person and their network members.

Finally, the logistics of coordinating and maintaining services between different providers has been shown to be time consuming and challenging (Shaw et al., 2020). Informal caregivers often play a major role in this work, suggesting that older people with less robust social support will be less likely to find and maintain services even when they need them. As Litwin was quoted in Keating et al. (2003: 119), "paradoxically, it is the older people with the least need of support that have the most supportive relationships". Wenger (1994) also provided evidence to social workers that people in less robust networks often enter the formal care system in crisis. She found this was either due to the sudden loss of their single source of help

(e.g., partner or local friend or neighbour), or because of carer burnout within families due to anxieties about the financial implications of engaging professional services.

There is also the challenge of helping an older person to maintain connections to their broader social network. There may be important relationships that are less about instrumental support and more about emotional support, self-identity and belonging in the neighbourhood. Researchers sometimes apply the 'care network' construct, as a further subset of the support network, to explore life for older people sitting across the informal caregiving and formal care interface (Bijnsdorp et al., 2019; Broese van Groenou, 2020; Broese van Groenou, Jacobs, Zwart-Olde, & Deeg, 2016; Keating et al., 2003; Kemper-Koebrugge, Adriaansen, Laurant, & Wensing, 2019). This care network construct provides greater clarity to the scope of caring relationships that exist around an older person and reduces the risk of focusing on only one relationship, when there may be several people in the caring matrix. In earlier research, Keating and colleagues (2003) questioned whether care networks and support networks could co-exist. It could be argued that they can co-exist if home care professionals and informal caregivers do not prevent or isolate older people from other social contacts because of their caring roles.

Importantly, organisations providing care with a trained workforce are still not undertaking an assessment of the informal network as a matter of course (Bijnsdorp et al., 2019; Broese van Groenou, 2020; Kemper-Koebrugge et al., 2019). In earlier research, Keating et al. (2003:116) found evidence that health care organisations "suggested, encouraged and promoted assessment of social networks", but did not mandate it. They also pointed out at that time, any assessment of an older person's family ties was also predicated on the assumption all family ties identified would have capacity to provide care, which has since been proven to be untrue. This 'rose-tinted' view has also been extended to other relationships around an older person; that is, all social interaction is a good thing. There is now a body of literature that highlights the difficulties older people may face if they regularly experience negative social interaction or relationships filled with conflict (Windsor et al., 2016). This again supports the case made by Shaw et al (2020) and others, that good relationships between home care professionals and informal caregivers both minimises conflict in the care environment and maximises benefits for older people.

In summary, formal care services need to be mindful that formal service provision has implications for the social support available to an older person. Formal service provision may

be beneficial for social support, by freeing up family and friends from caregiving roles and allowing them to return to social support roles. However, it may also be detrimental for social support, if it generates conflict within the informal network and reduces an older person's access to social support.

Measuring social support networks

The lack of routine assessment of the 'informal network' in clinical practice is not a new issue (Kendig & Lucas, 2013; Lubben et al., 2006; Perissinotto, Holt-Lunstad, Periyakoil, & Covinsky, 2019). As Perissinotto et al. (2019) point out, health care relies on traditional risk factors and resources are not generally extended to social risk factors, or social determinants of health such as social isolation or loneliness, despite the epidemiological evidence that social risk factors have an impact on health outcomes (p.653). In a recent systematic review Welch et al. (2021:3) found there was a "paucity of studies on … family support, personal support and befriending or family visits". Other recent research has also highlighted that a lack of consistent measurement tools may be impacting the interpretation of findings in social support research (Rutter et al., 2020).

The network construct has been an important research tool for investigating social support. A large body of the gerontological literature on social networks has been focused on research that explores links between network type and health and wellbeing. Network type has been linked to mortality, depression, loneliness and even patterns of health service use (among other variables of interest) (Berkman & Syme, 1979; Bryan, Fredriksen-Goldsen, Kim, & Muraco, 2017; Cassel, 1976; Choi & Wodarski, 1996; Ertel, Glymour, & Berkman, 2009; Fiori, Antonucci, & Cortina, 2006; Giles, Glonek, Luszcz, & Andrews, 2005; Holt-Lunstad & Uchino, 2015; House et al., 1988; Litwin, 1997; Litwin & Shiovitz-Ezra, 2006; Lubben et al., 2006; Park et al., 2018; Santini et al., 2015; Shiovitz-Ezra & Leitsch, 2010; Valente, 2010, 2015; Wenger, 1991, 1997; Wenger & Burholt, 2003; Wenger & Keating, 2008; WHO, 2019). However, the translation of social support network tools to the clinical and practice environment continues to be limited (Harasemiw et al., 2019; Litwin & Shiovitz-Ezra, 2010; Valtorta, Kanaan, Gilbody, & Hanratty, 2016).

A review the literature on social and support network measurement tools requires an understanding of the range of social networks and support networks that exist in older age. Therefore, this next section describes the types of *ego-centric* social and support networks found in the older population.

Social networks in older age

Research consistently find four basic social network types in Westernised older populations such as Australia, America, Canada, New Zealand and the United Kingdom (Litwin & Shiovitz-Ezra, 2010). These ego-centric networks, in no particular order, are known as 'family-focused' networks, 'friend-focused' networks, 'diverse' networks, and 'restricted' networks (Litwin & Shiovitz-Ezra, 2010).

People in 'family-focused' networks often have a few local friends and enjoy the regular contact and company of their families. They have at least one adult child living close by and often have other members of the family including grandchildren, siblings, nieces and nephews, living not too far away. Daily contact with someone in the family is common.

Older people in 'friend-focused' networks often have adult children (and grandchildren) living more than 100km away. They may have retired to a new community, or their children may have moved away and now live in other communities for work. Their lives generally revolve around catching up with friends. Older people in this network type may meet socially at each other's houses, or out in the community at coffee shops, the cinema, or at local events. Memberships to social groups and volunteer roles in organisations are common.

The 'diverse' network is comprised of older people with a large and varied number of *ties* to family, friends, neighbours and the broader community. People in these networks are usually in contact with a number of different people regularly and have access to a broad range of support if they need it. They usually know and become friends with neighbours, are involved in community groups, have family and friends that live locally, and may keep in touch with people in distant communities too, either older friends or other family.

Older people in 'restricted' networks usually have only one or two significant others in their social circle. They may be family members or good friends. People in this network type tend to rely heavily on a partner or spouse for many of their social needs. It is easy to see how any loss of *ties* in this type of network has social support implications for the older person.

A fifth network type is also usually found in the population, but it is considered to be a "variation" on one of the four basic network types, such as Litwin's *Congregant Network* type found in an American population; a 'friend-focused' network confined to a particular religious congregation and its activities (Litwin & Shiovitz-Ezra, 2010), or Wenger's *Local Self-Contained Network* type; a 'diverse' network variation exhibiting relationship bias to

neighbours, less community involvement and a lower frequency of general contact (Wenger, 1991; Wenger & Keating, 2008).

Some researchers have also reported six network types in their typologies. However, these have also been shown to be variations on the four basic network types. Fiori and colleagues separated both the 'family-focused' and 'restricted' network types into two separate variations: a *supported* variation of the network type, where there were measurable levels of social support available across the social network, and an *unsupported* variation, where levels of social support were unclear (Fiori, Antonucci, & Akiyama, 2008; Fiori et al., 2006).

From a review of this literature, there appears to be a case for a common network typology. This would enable a broad and consistent research translation framework across a country (like Australia), or across culturally similar populations. However, there is no debate in the social gerontology research literature about the lack of such an approach, or the importance of developing such a framework to benefit policy or practice. In fact, much of the social network research to date has been focused in 'discovery' research, generating *best-fit typologies* for populations or groups of older people as new waves of general social survey data (as well as other population level data) becomes available (Bryan et al., 2017; Ertel et al., 2009; Fiori et al., 2006; Giles et al., 2005; Litwin, 1998a; Litwin & Shiovitz-Ezra, 2006; Park et al., 2018; Santini et al., 2015; Schaefer & Adams, 2017; Sohn et al., 2017). It is therefore timely to review the literature on existing measurement tools to support the uptake of social support measurement in policy and practice.

Identifying the social and support networks of an older person

There is a small but rich body of evidence demonstrating how social network research can be successfully translated into useful tools to identify the social and support network types of an individual. Interestingly, this research is also older, undertaken at a time when policy makers and service providers were only starting to think about the future implications of an 'ageing population' phenomenon in their countries.

The original focus for the creation and application of these tools was to inform policy makers about the different coping strategies used by older people living in the community, and to assist busy clinicians in their care of older people (Lubben, 1988; Wenger, 1986, 1991). The tools, known as the Wenger *Practitioner Assessment of Network Type (PANT)*, and the *Lubben Social Network Scale (LSNS)*, together with an abbreviated version (*LSNS-6)*, were validated in clinical practice settings more than fifteen years ago (Lubben et al., 2006;

Wenger & Tucker, 2002). They are still in use today, although there are important differences between the two tools, both in the way they were developed and how people are using them.

Wenger Practitioner Assessment of Network Type

The Wenger *PANT* was developed by G. Clare Wenger and a team of researchers from the University of Wales, Bangor, UK, following several funded studies in the 1980's and 1990's. The first study involved a series of home visits with older rural Welsh people (living across eight northern Wales communities) and interviews in either English or Welsh (depending on the preference of the older person being interviewed). The focus of this project was to understand how older people managed everyday life; what services they accessed, what problems they faced and how they overcame them (Wenger, 1982, 1984). Wenger noted that, in writing up the report for government, how optimistic the story was, with the majority of older people living in their own homes and dealing capably with the difficulties of older age, with the help of family and friends. Wenger then embarked upon both a follow up study of the original study participants as well as an in-depth four year qualitative study with thirty randomly selected Welsh participants; visiting each older person six times annually (Wenger, 1986, 1988).

The combined rich body of data and findings helped Wenger to see the different ways in which people mobilised help from their social networks, and how they engaged with formal health and social services, enabling her to develop a sophisticated *support network typology* (Wenger, 1991, 1992). The assessment tool, the Wenger *PANT*, and a guide for its use, were developed to support policy makers and practitioners in developing policies, and tailoring appropriate interventions, for older people living in the community (Wenger, 1994).

The Wenger *PANT* places an older person into one of five different *support network types* based on: the proximity of close kin; the proportion of family, friends and neighbours involved; and the levels of interactions between the older person and their families, friends, neighbours and community groups (see **Figure 3.1**). The *type of support network an individual is embedded in,* therefore, provide clues about who in the social network is most likely to be supportive and available to help. Older people in the smaller and less diverse network types have different levels of social support vulnerabilities compared to those in more diversified networks. That is why research consistently finds that older people in larger, more diverse networks generally have better health and wellbeing outcomes (Aiello, 2017; Berkman & Syme, 1979; Cassel, 1976; James, 2017; Wenger, 2002; Windsor et al., 2016).

Figure 3.1: Descriptions of the five types in the Wenger typology (Wenger 1990: 377):

1. The *family dependent support network* has a primary focus on nearby kin *ties*, close family relationships and only a few peripheral friends and neighbours. It is often based on a shared household with adult children, sister(s) or brother(s), or very near separate households. Most commonly the older person relies primarily on a daughter.

2. The *locally integrated support network* includes close relationships with local family, friends and neighbours. Many friends are also neighbours. Usually based on long-term residence and active community involvement in the present or recent past.

3. The *local self-contained support network*, typically has arm's length relationships or infrequent contact, with at least one relative living in the same or adjacent community, usually sibling, niece or nephew. Reliance is focused on neighbours but respondents with this type of network adopt a household focused lifestyle, and community involvement, if any, tends to be very low.

4. The *wider community-focused support network* is typified by active relationships with distant relatives, usually children, high salience of friends and neighbours. The distinction between friends and neighbours is maintained. Respondents within this type of network are generally involved in community voluntary organisations. Absence of local kin is common.

5. The *private restricted support network* is associated with absence of local kin, other than in some cases a spouse; minimal contact with neighbours, no nearby local friends and lack of wider community contacts or involvements.

In parallel, Wenger undertook extensive research to test the *robustness* of her network typology; correlating support network type with a number of variables including (among others), levels of social isolation and loneliness (Wenger & Burholt, 2003; Wenger, Davies, Shahtahmasebi, & Scott, 1996), service use (Wenger, 1997, 1999), support provided by children and siblings (Burholt & Wenger, 1998), and patterns of ageing without children (Wenger et al., 2000; Wenger, 2001c; Wenger, 2009).

Wenger's network typology has both demonstrable network type stability, and network transition predictability, for older people in times of increased dependency (from illness or disability), or increased independence (due to recovery from illness and disability caused by disease) (Wenger, 1990). The Wenger *PANT* is therefore a robust tool for service providers, especially useful in identifying who clinicians may need to work with in a person's social

network to optimise service provision (Drennan et al., 2008; Litwin & Shiovitz-Ezra, 2010; Wenger, 1990; Wenger & Tucker, 2002).

A construct validation of the Wenger network typology was undertaken by New Zealand researchers (Szabo, Stephens, Allen, & Alpass, 2016). The Wenger network types were identified in a New Zealand population (with no overlaps of network type or *cliques* in the model-based approach), and the tool was found to be useful for both older Māori people as well as older non-Māori people. However, Szabo et al. (2016) provided criticism about the Wenger scoring method to assign network types and recommended a model-based approach.

In reviewing the Szabo et al. (2016) research findings, this criticism appears to be largely based on the proportion of network types found in the New Zealand population. However, previous research findings by Wenger (2007), using proxy data from the Australian Longitudinal Study of Ageing (ALSA) database (data from an urban Adelaide population) were not referenced in the Szabo et a. (2016) research. Wenger (2007) had found differences in the Australian population that were consistent with the bias found in the New Zealand population; that is, a greater propensity for friends in the social networks of older Australians compared to European, Israeli, Japanese and American populations. However, to date there has been no further exploration of this bias, until now with this doctoral research study. Szabo et al. (2016) concluded that they intended to follow the study cohort over time to test the empirical robustness of network stability. This may also contribute to the research literature around network stability (and adaptiveness over time) to demonstrate network resilience. Hopefully these authors will also complement their future studies with in-depth observational studies to confirm the value of the existing instrument.

More recently, Burholt and Sardani (2018) have reported on changes in the Wenger *support network typology* in rural Wales. They reported that the proportion of *wider community focused* and *private restricted* support networks had slightly increased while the proportion of *family dependent* and *locally integrated* support networks had slightly decreased, reflecting changing migration patterns in Welsh rural communities (Burholt & Sardani, 2018).

Lubben Social Network Scale

In contrast to the Wenger approach (of building a network typology based on extensive qualitative studies and primary data collection), James Lubben, an internationally recognised researcher, adapted the *Berkman-Syme Social Network Index* (a validated instrument in use for people aged 18-64 years old) for use with people aged 65 years and older. The *Lubben*

Social Network Scale was developed to assist with clinical service provision and the identification of social isolation in older people (Lubben, 1988). Lubben also developed an abbreviated version of his tool, the *LSNS-6*, to provide a valid and reliable 'short scale' for busy clinicians (Lubben et al., 2006). This tool comprises six questions in relation to an older person's *ties* to family and friends, both in terms of proximity and frequency of contact.

This assessment tool is used widely and cited often in the literature. A few recent publications have reported adaptations of both the *LSNS*, and the *LSNS-6* for use in different populations generating the *LSNS-R* for use with older gay and lesbian people in the United States (Gabrielson & Holston, 2014), the *LSNS-18-M* for use with older adults in Mongolia (Burnette & Myagmarjav, 2013) the *K-LSNS-R and K-LSNS-6* for older American Koreans (Michin, Casado, & Harrington, 2011), the *LSNS and LSNS-6 Spanish* versions for older Mexicans and Mexican-Americans (Vilar-Compte, Vargas-Bustamante, & Lubben, 2018).

Researchers also recently reviewed the psychometric properties of the abbreviated Lubben scale, the *LSNS-6*, to determine its utility in assessing the social networks of an older adult community sample (Gray, Kim, Ciesla, & Yao, 2016). The authors reduced the 'short-scale' even further (from six questions to four questions) and demonstrated it was more psychometrically sound and useful for research and practice. Given this scale provides a numerical response (indicating risk of social isolation or not) it will only be useful in research and clinical practice contexts for this purpose. New research developing a *social isolation typology* is also in progress. This may generate more appropriate interventions and treatments responses for older socially isolated people (Machielse, 2015).

Use of existing network typing tools in Australia

There is some evidence of the *LSNS*, and the *LSNS-6* version, being used in various research and practice settings in Australia, but only anecdotal evidence of the use of the Wenger *PANT* in Australian health care settings (Byers, 2012). There is no evidence at all regarding the extent to which these tools have been taken up by service providers to inform policy and planning. This is despite the evidence regarding the effectiveness of the Wenger *PANT* in supporting the service planning of social work organisations (Wenger & Tucker, 2002).

Comparison of the existing tools

One of the key differences in the Lubben scale compared to Wenger's instrument, is that the Lubben scale does not consider the social relationships with neighbours, or social

connectedness in relation to the broader community, potentially missing important social relationships that exist. It could be argued that Wenger (1991) may have applied measures of social connectedness more skilfully that the original authors of the *Berkman-Syme Social Network Index* (from which Lubben developed his scale). Wenger measured 'attendance' at both religious events and social groups, and linked attendance with frequency. That is, she separated 'regular' attendance from 'occasional' attendance, and more importantly, separated 'occasional 'attendance from 'no' attendance, providing a *clear pattern of engagement*. The *Berkman-Syme Social Network Index* on the other hand is a simple binary response of 'yes' or 'no' followed by a more complicated six-point scale. Lubben (1998) found this approach to be unhelpful in developing his scale and removed references to community involvement. However, this has created limitations in the use of *LSNS*, as any distinction between neighbours and friends within the non-kin category cannot be made. This limitation was raised in recent research, when the researcher was unable to distinguish contributions from friends and neighbours (Herbolsheimer, Mosler, & Peter, 2017).

This has also become increasingly relevant in the modern gerontology literature (Greenfield, 2015; LaPierre & Keating, 2012). LaPierre and Keating (2012) point out that research on informal care has largely neglected the contributions of non-kin carers or used findings to reiterate the importance of separating the contributions of friends from the contributions of neighbours. Interestingly, the importance of neighbourly relationships in gerontology is not new (Barker, 2002; Chappell, 1983; Litwin & Landau, 2000; Wenger, 1984; Wenger & Shahtahmasebi, 1991), and the distinction is able to be made with the Wenger instrument. Therefore, with all the evidence provided to date, it is unclear why the Wenger *PANT* has not been taken up more broadly in clinical settings by health and social care organisations who provide care and treatment for older people. It is also unclear why network typing is not being used more broadly to better inform health and social care service planning and development in Australia.

Using network knowledge in policy and planning

In Australia, it has been posited that more sophisticated policies are needed to improve support to older people in everyday life (Kendig & Lucas, 2013; Kendig, McDonald, & Piggott, 2016). There is increasing recognition that current strategies to improve the social connectedness of older people are too generic, and there are measurable groups of people with unmet needs. In Australia, one of the recognised challenges of health and aged care

services is that different types of service provision are supported by different levels of government (Kendig & Lucas, 2013).

The importance of the life course approach for understanding social support in older age, and for strengthening policies into the future, cannot be understated. Policies also need to take into consideration the considerable diversity of the older population (Windsor et al., 2016). Attention must be paid to both the macro-environment of inequality, poverty, and gender diversity in early life (Scharf, 2020), as well as the meso-level environment of emerging family structures (Ozanne, 2007). Emerging family structures, compared to traditional family structures, may comprise lone male parents with children, same sex couples with children, or grandparents raising grandchildren. It is these environments that shape the micro-level experiences of individual Australians in older age.

While informal care structures and intergenerational solidarity are considered to be robust in Australia (Kendig, 2016), earlier research highlights the need for caution from policy makers about making decisions for the 80 plus population based on 65 plus population. The 'double sandwich' (older women caring for even older parents due to increased longevity), and other changes in social support roles, impact on the availability of social support across life course (Antonucci et al., 2010; Burholt & Wenger, 1998; Manor, 2021). Migration patterns in retirement also impact on accessibility of social support from some sources, often adult children and their families (Burholt & Sardani, 2018; Burholt & Wenger, 1998).

In Australia, and other westernised countries, there continues to be an emphasis on measuring capacity for caregiving and informal care in social relationships. This appears to be largely driven by social policy, where there is a strong focus on understanding and building capacity in the availability of future carers (Productivity Commission Australia, 2013). However, in earlier research Keating et al. (2003:116) noted that Litwin in 1996, in his multi-country research on networks of seniors, cautioned policymakers that informal support structures were becoming more fragile (due to societal changes) and argued against back-to-the-family policy for long term care.

The inability for formal care to fully substitute for informal care, supports policy efforts to strengthen the informal networks of older people, noting broader social changes impact on the intrinsic nature of informal networks. For example, Golden and colleagues (2009) found that widowhood was the single most important predictor of loneliness, affecting more women

than men. They also concluded that this is not because older women have a greater intrinsic vulnerability to loneliness but rather, they encounter the risk factors that lead to loneliness more often than older men.

Importantly, research has found that older people rate social engagement above physical health when it comes to describing successful rural ageing (Davis & Bartlett, 2008; Golden et al., 2009). While there is government funding for social programs for older people in Australia, social engagement and social interaction need to be meaningful to be effective (Abdi et al., 2019; McLaughlin et al., 2012; Windsor et al., 2016). Holt-Lunstad and Uchino (2015: 186) argue that the distinction between the actual receipt of support and the perceived availability of support, may explain why some social programs aimed at increasing social interaction fail to yield improved or positive outcomes, that is:

> *Interventions aimed at increasing support often try to increase the receipt of social support without considering whether it responds to the individual's needs or is perceived as supportive.*

Quality of relationships becomes very relevant when trying to understand social vulnerabilities (Cappelli et al., 2020; Mugford & Kendig, 1986). As Mugford and Kendig (1986: 38) pointed out many years ago, while members of a social network may provide help and support, they may also "at times exert pressure and make demands". Likewise, Appau and Awaworyi Churchill (2020) drawing on the work of Peggy Thoits, noted that while social support can provide a sense of meaning, companionship, identity and self-worth; social support can also be associated with controlling behaviours that may negatively affect a person's wellbeing.

In summary, social support is built over the life course, and therefore key policies that impact the environments in which people live and grow in early life will have implications for their experiences in later life. Meaningful social engagement in older age can enhance life, reduce social isolation and mitigate loneliness. However, policy makers need to recognise that social programs must be responsive to the needs of an older person to be effective, or they risk creating further harm above and beyond social isolation. The Wenger *PANT* can offer both clinicians and policy makers a robust approach to measure the social support networks of older people. For policy making and aged care services in rural settings, the need to better understand older people's social support networks may be even more compelling.

The next and final section of this chapter provides a brief review of the most pertinent literature around rural ageing to underpin this current research, and to provide context for a closer examination of social support and social networks in rural communities.

Rural ageing

In many respects, there is a widespread lack of understanding of rural issues. This is built on the premise that the generic term of 'rural' in most of the literature has promoted the idea that the experiences of rural residents will be homogenous from one rural location to another. This is further exacerbated by a perception that life and work outside urban locations is somehow inferior (Davis & Bartlett, 2008). Previous research has illustrated the diversity across and within rural Victorian communities, which is breaking down the unidimensional view of rurality and rural living experiences (Davis et al., 2012). Critical approaches to understanding rurality itself have, in recent years, provided recognition for the diverse and place-based thinking about the nature of rural living (Glasgow & Brown, 2012; Poulin, Skinner, & Hanlon, 2020; Skinner & Winterton, 2018). Arguments grounded in the 'economies of scale' have been the long-standing foundation to explanations for differences between rural and urban locations, but there is little evidence of challenges to that rhetoric.

Walsh and O'Shea (2010:3) note it is difficult to challenge the view that ageing in rural communities is a "homogenous set of experiences lived by a homogenous group of people in homogenous communities" despite the obvious diversity in size, population density and distance from service centres in rural communities, all of which impact on the ageing experience of those living in these diverse rural communities (Keating & Eales, 2012). It cannot be denied that lower population densities, uneven population distributions, and poorer quality public infrastructure, mean that the challenges of distance and transport do influence quality of life for people living in rural areas (Orpin, van der Ploeg, Walker, Boyer, & Carroll, 2015). Orpin et al. (2015:4) points out that research on change in rural areas shows "a growing stratification between communities that are either thriving, or merely holding (e.g., larger regional centres, economically diversified high amenity and peri-urban) or actually declining (e.g., single industry agricultural or mining, low amenity, remote from larger centres)"

A 2012 study of productive ageing in those 50 years of age and over in twenty locations across Northern Victoria, considered their findings in the context of declining, stable and growing communities (Davis et al., 2012). This research showed that declining communities

had significantly higher rates of participation in group civic involvement and community involvement, while people in growing communities were more likely to be socially active in public spaces. The study highlighted some interesting patterns about the contributions and roles of older people in developing and sustaining rural communities. Encouraging for the future, the baby boomers in this study reported being actively involved in all types of social, civic and community involvement in rural communities, and many indicated an interest to increase their involvement when family and work commitments lessened over time (Davis et al., 2012).

Irwin (2019) explored the impact of changing demography and socioeconomic environments in a single rural community. The town under investigation was a community declining slowly over time, losing key infrastructure but which in recent years had been attracting a group of late middle-aged, single women between 55-65 ('tree-changers') (Irwin, 2019). Although the women perceived the move as a positive new start, as they grew older, their experience was one in which they found the community systematically excluded them "from fully participating and contributing to the community" (Irwin, 2019: 262). In her conclusion, Irwin states:

> *When confronted with economic threats, political challenges, and demographic change, the two resorted to a repertoire of conservative, true and tried solutions (young family in-migration) in an attempt to restore its former elite position. Its response to these crises is to maintain the status quo, rather than proactively seeking new solution.*

However, in-migration is diverse and the experiences for both the community and those coming into them as new residents are equally as varied. For example, the immigrant settlement in rural areas has re-emerged (Smailes, Griffin & Argent, 2019) and has played a role in both offsetting longstanding outmigration and social sustainability. Hugo (2014) points out that younger working-age people from overseas have impacted on regional communities in that they have met important labour shortages (both high and low skilled), have created demand for local goods and services, particularly health and education and contribute to the social fabric of communities through volunteering, participation in sport and other organisations. Similarly, refugee-settlers moving into rural communities in states such as Victoria have value-added as not only a labour force but also skilled human capital to local communities (Hugo, 2014). Nevertheless, the immigrants' experiences of settling in rural

communities is varied, from some communities welcoming them through to other communities exhibiting overt racist attitudes (Forrest & Dunn, 2013; Hugo, 2014).

There is also some evidence that Australian 'Grey Nomads', that is, older people that travel seasonally to rural destinations, feel a strong place attachment to those communities. It has been shown that they contribute both financially (by purchasing goods through local businesses), and by participating in community and social activities, including volunteering (Davies, 2011). Volunteering is regarded as particularly important in rural communities, with more recent research indicating that due to previous Australian rural policies, community 'self-help' strategies and volunteer labour are critical to the ongoing function of many smaller rural towns and communities (Warburton & Winterton, 2017). Rural Australian communities have a strong history of voluntary service in organisations and services including Surf Life Saving Clubs, rural ambulance services, country fire services and the State Emergency Service (to name a few). However, as Warburton et al. (2017:133) explains "the limited literature that has focused on rurality as a context for ageing and volunteering has explored the implications for rural community sustainability, rather than the health and quality of life implications for older residents". Some evidence suggests that while volunteering can be good for the health and wellbeing of rural older people, findings also showed that a reliance on voluntarism in later life may pose risks to the wellness of rural older people (Warburton & Winterton, 2017).

Policy trends to increase economic growth in the regional and rural areas of Australia are likely to struggle against natural demographic forces (Wilson, 2015), so the ability for families to live in the same communities as their ageing parents is often difficult. Particularly if the work opportunities and infrastructure to support young families are not available. This in turn impacts on levels of social care and social support available to older people, with implications for healthy rural ageing.

Concluding remarks

While there is no single definition of social support, there is broad recognition of the core elements that comprise social support. More explicit definitions become important in defining the parameters of research studies but may be less important in describing the day-to-day lives of older people and their relationships with families, friends and others. In this review of the literature, the author proposes that research may benefit in moving to a nested set of

definitions to better reflect the separation, but links, between social support and reciprocity in everyday life, caregiving, and professional social support volunteer activities.

Networks are useful models for understanding the number of ties in a network and how network members interact. This provides important information about help seeking behaviour and levels of influence between people who have relationships with each other.

Social networks are often constructed as models for research from secondary data, but validated instruments that capture prototypical network characteristics for use in clinical care and service planning are limited. Despite the call for more work in this area over many decades, there continues to be limited research. Older tools are still in use today and researchers, and clinicians, continue to refine clinical tools where they can in an effort to make them more user friendly. However, there has been little published evidence of this approach with the Wenger *PANT* despite its utility in clinical practice and service planning. This research is aimed at applying and examining the *PANT* in an older rural Australian population to encourage its uptake and further refinement in Australian settings.

Chapter Four: Methodology

Introduction

This research study used a mixed methods approach that made use of both quantitative and qualitative data. Taking a mixed methods approach enabled different types of research questions to be addressed within this one study. That is, a quantitative phase enabled the identification of network types and data trends in the study sample, and combined with a qualitative phase, enabled the exploration of relationship quality and help seeking behaviour patterns with older people and their families, friends and neighbours. Using a combination of research approaches can also provide a more comprehensive picture of the study phenomena and can help to answer research questions or explain research findings that cannot be answered by quantitative or qualitative methods alone (Bryman, Becker & Sempik, 2007; Doyle et al., 2009).

This research was approved and monitored by the Flinders University Social and Behavioural Sciences Human Research Ethics Committee (Project No. 6683).

Study design considerations

A review of the research methods available was undertaken with both Bryman (2012) and Clough & Nutbrown (2012) providing an overview of methods available and criteria or considerations in selecting both methods and methodology. Brannen (2005) and Teddlie & Tashakkori (2009) point out a mixed method approach is the most appropriate if the research involves working with different types of data. Given the mix of both quantitative and qualitative data in this research study, a mixed methods approach was considered the most appropriate approach. Bryman et al. (2007) also note that a key rationale for using a combination of data sources is that a more complete picture of the study phenomena may be generated. According to Doyle, Brady & Byrne (2009), adopting a mixed methods approach also provides a way to reduce bias in each type of method (quantitative or qualitative), and increases the credibility and validity of research findings (known as *triangulation*).

Social researchers generally describe using a scientific research method, such as testing existing evidence or data, as taking a positivist epistemological approach (Dawadi, Shrestha & Giri, 2021). To assess and measure the Wenger network types required taking a quantitative research approach, utilising the research method of postal questionnaires.

However, it was not possible with the social and support network models available to explore the quality of relationships in social and support networks using a quantitative approach. Therefore, using a qualitative research method was considered the best way to explore the quality of relationships and help-seeking behaviours in the population of interest.

The qualitative research component utilised semi-structured interviews as a method to collect data from participants. A thematic analysis was used to analyse the qualitative data generated from the research. Thematic analysis is considered to be an appropriate method for early career researchers (Braun and Clarke, 2006). The thematic analysis included analysing anonymously contributed open-ended qualitative content provided by participants, as well as qualitative data responses from either directed questions at interview or by content volunteered by older people as important to them in those interviews. An understanding of the Wenger network types was also an important consideration in the analysis of the qualitative data, and as discussed below, a cognisance of researcher bias was paramount in the interpretation of research findings.

A consideration of human research ethics was included in the study design. The option to allow anonymous contributions via postal questionnaires enabled older people to feel safe to say anything they felt was important to them. The selection of participants for interviews considered the network type assignment and was therefore purposive in nature. However, the selection of participants within the network type itself was done randomly to minimise any researcher bias in selecting ‘more interesting' people. The doctoral student was an experienced interviewer with older people, and both consideration of physical stamina and mental health status of older people was paramount in the conduct of interviews.

Finally, social science research is often considered to be a purposeful activity seeking to influence policy and practice. This research was intentional in generating research that would provide a compelling narrative for policymakers and practitioners. Therefore, as the doctoral student was the primary researcher, collecting and analysing all data collected, the consideration of positionality and researcher bias was managed. Regular engagement with PhD supervisors and where appropriate, with the independent Wenger expert Professor Burholt, was used to minimise researcher bias and ensure results were interpreted with rigour.

Phase 1 – Quantitative Phase

The first phase of this research involved collecting data via the distribution of an anonymous self-complete postal questionnaire. The questionnaire comprised the Wenger *Practitioner Assessment of Network Type* (*PANT*) validated instrument (adapted to an Australian setting) together with key demographic variables (e.g., age, marital status, health status etc.) to enable a contextual analysis of the study sample. The Wenger *support network typology* was determined through analysis of the quantitative data. The quantitative data was also used to identify key network trends and patterns.

Selecting the sampling method

Australian researchers developed a novel randomised sampling method for research surveys utilising the Australia Post Unaddressed Mail Service (Davis et al, 2009). The Australia Post Unaddressed Mail Service is generally used by advertisers to distribute flyers to residents (with a listed postal address / 'mail box'). This cost of mail delivery is significantly cheaper through the Unaddressed Mail Service (compared to the standard mail service), reduced down from $A1.50 to $A0.30 per piece of mail. What makes this service useful for research is that it is also possible to request a customised postal delivery pattern (for example, posting mail in every third 'mail box' instead of every 'mail box'), providing a much cheaper method for randomly distributing mail around a given community.

This novel sampling method was selected for this doctoral study because of its utility in reaching older people, anonymously, living in communities spread over a large geographical area, within limited resources.

Selecting the study region

The rural northern Wales communities from Wenger's Bangor Study of Ageing comprised people ageing in place, as well as people who had migrated (from other parts of the United Kingdom) to coastal Welsh communities in retirement (Wenger, 2001b). The Wenger study cohort also included older people living outside towns and villages (in rural farming environments), some of whom were quite isolated (living in inland mountainous regions). Generally, Welsh and English were spoken throughout these communities.

Selecting a suitable rural Australian community for this PhD study was based on both matching (as closely as possible) the geographical characteristics and migration patterns found in the northern Wales study (to enable the comparison of community profiles of the

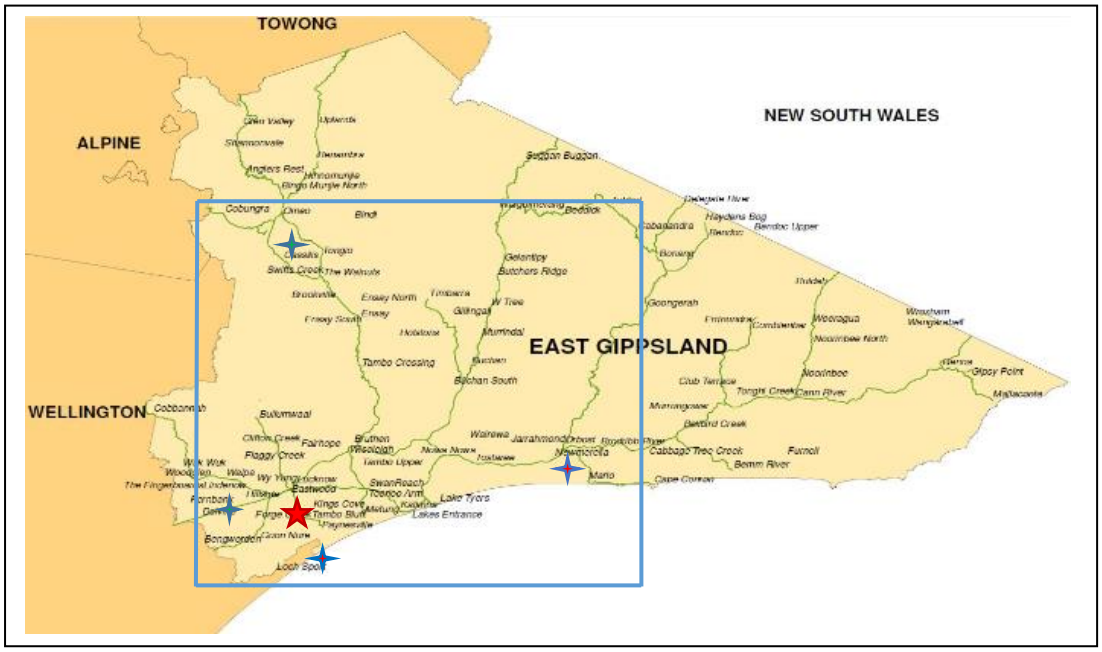
typology), as well as selecting a destination convenient for the author who was based in Melbourne, Victoria. The East Gippsland region of Victoria was determined to be a good match (see **Figures 4.1 and 4.2**).

The East Gippsland region of Victoria was deemed to be a good match based on the following characteristics:

- The region is bordered by the Great Dividing Range on the north and Bass Strait on the south. Therefore, older people live in a variety of small and large, rural, alpine (inland mountainous) and coastal communities;
- There is a mix of older people 'ageing in place' (e.g., farmers, retired labourers, business owners and professionals), and migrating retirees (e.g., from other regional areas and the major capital city of Melbourne); and
- The regional centre of Bairnsdale is approximately 300km from Melbourne (about a four-hour drive) and is linked to Melbourne by public transport.

Figure 4.1: Study area within the State of Victoria, Australia

Figure 4.2: Detailed map of the study area within the East Gippsland Region



Sampling frame

The study sample was drawn from older Victorians, aged 65 years and over, living independently in the East Gippsland region of Victoria. At the time of the design of this project, this region was identified by the Australian Bureau of Statistics (ABS) as Local Government Area 22110 with a population of 42,196 people, and 9,825 people aged 65 years and over (ABS 2011).

This region is a well-known holiday destination in both summer and winter (lakes district, surf coast and snow skiing fields). Some towns and localities contain a higher percentage of houses that are only occupied during the peak holiday times. There is also a well-known settlement/community of people who identify as Aboriginal or Torres Strait Islander peoples in this region (clustered around Lake Tyers). However, as it would not be appropriate to interpret data regarding Aboriginal or Torres Strait Islander peoples without their involvement, Aboriginal or Torres Strait Islander peoples were excluded from this study.

Questionnaire development

A research study questionnaire was developed around the eight key questions that make up the Wenger *PANT* instrument. Each question was adapted for an Australian setting, for example, imperial measurements (miles) were changed to metric measurements (kilometres) for all distance related questions. The language of the questions was also modified (slightly),

because the Wenger *PANT* instrument was initially designed to be completed in a face-to-face consultation or research interview with the older person.

The Australian adaptation was developed to be part of a self-complete postal questionnaire. A comparison of the Wenger *PANT* questions with the Australian adaptation constructed for this research can be found at **Appendix 1**.

Four additional network questions were also developed for inclusion in the Australian Research Study Questionnaire. These questions were designed to explore the contribution of communication tools, such as use of the telephone as well as email and Skype. This was in response to:

1. Work underway in the United Kingdom to validate a revised version of the Wenger *Practitioner Assessment of Network Type* that included new questions regarding contemporary communication (World Congress on Ageing, June 2013; Personal Visit to the Wales, October 2013); and
2. Criticism of the Wenger *Practitioner Assessment of Network Type* about its lack of communication variables in the peer-reviewed literature (Alpass, Long, & Blakey, 2004; Fiori et al., 2007).

A revised version of the Wenger *PANT* was captured as part of the 2015 Cognitive Function and Ageing Study Wales (CFAS Wales) Data Information. The proposed new variables were shared with the researcher to enable a parallel testing of these new communication variables in an Australian population. The new variables, and the Australian adaptation of these variables, are shown in **Appendix 2**.

Importantly, all modifications to the Wenger *PANT* were reviewed by Wenger expert Professor Burholt and were deemed to be consistent with the intention of testing the Wenger *PANT* and not the creation of a new instrument that would require piloting and validation.

Finally, demographic variables were included in the study questionnaire to enable the profile of respondents to be compared with the general profile of older people living in this region, and therefore, the extent to which any findings from this study can be generalised. The Australian Bureau of Statistics provides Australian Census data tables on people, families and households. Data fields include age, sex (main gender identities), marital status, household composition, dwelling structure characteristics, income, occupation and labour force status, levels of education, languages spoken at home, religious affiliations and cultural identity. The

Australian Bureau of Statistics, as well as other references in the literature, were used to create questions for inclusion into the study questionnaire to collect useful demographic data.

Age

As the study was designed for people aged 65 years and older, age was an important independent variable to collect. The Australian Bureau of Statistics collects age as a whole number so the independent variable of 'age' in this study was collected as a ratio variable (ABS, 2011).

Gender and marital status

As the life expectancy for men and women is different, ageing studies often group older people by gender identity. The Australian Bureau of Statistics collects data by sex – male and female – which are the main gender identities of the Australian population (ABS, 2011). This study therefore included only two nominal categories 'female' or 'male' for the independent variable of 'gender'.

Gender differences in life expectancy also have a bearing on marital status with researchers typically separating married people from widowed people and people who have never married (Geerlings et al., 2005; Kendig & Brooke, 1997). The Australian Bureau of Statistics also identifies people who are divorced and not married, who may be living with a partner or on their own (ABS, 2011). Therefore, in this study, the independent variable of marital status was divided into four nominal categories: 'married', 'widowed', 'not married' and 'never married'.

Living arrangements

There is a strong policy focus on older people living alone, especially at the oldest ages. Researchers have often used two nominal categories of 'living alone' or 'living with someone else/others' to measure household composition in older people (Geerlings et al., 2005; Holt-Lunstad & Uchino, 2015). This study, therefore, adopted the two nominal categories of 'living alone' or 'living with someone else/others' regarding living arrangements.

Closest town and length of residency

To assist people living outside towns or on the land, the identification of the closest town was requested. Other researchers have found this nominal variable to be important when studying older people living in rural communities (Davis et al., 2012).

There has also been research that points to variation in the availability of social support in relation to the length of residency within a given community (Burholt & Wenger, 2004), therefore, respondents were asked to provide their length of residency in their current dwelling as a ratio variable or whole number.

Educational attainment and subjective health status

Health literacy and behaviour have been linked to a person's level of education (ACSQH, 2014). Therefore, education was included as an independent variable in this study. Education was measured using a six-point ordinal scale beginning with 'no formal schooling' and extending through to 'completed university/tertiary institution qualification'.

Previous research has utilised a measurement of subjective health status when looking at the level of interaction between older people, and both informal networks of support, and with professional services (Geerlings et al., 2005). A three-point ordinal scale was incorporated into this study to provide a subjective measure of health status. Responses developed ranged from 'generally good', 'bit up and down', to 'generally poor'.

Language and cultural identity

Finally, cultural identity was captured in two high level questions. Respondents were asked how often they spoke English at home, and whether they identified as Aboriginal or Torres Strait Islander Peoples. While every effort was made to minimise the inclusion of older Aboriginal or Torres Strait Islander Peoples in this study, any older person who identified as an Aboriginal or Torres Strait Islander Person via the questionnaire was excluded.

Respondents were also prompted towards the end of the questionnaire to self-nominate if they wished to be considered for participation in a follow-up interview. Room was made in the questionnaire for people to leave contact details as well as any comments. A copy of the Research Study Questionnaire can be found at **Appendix 3**.

Selection of towns and communities

Step 1: Identification of East Gippsland locations

The internet was searched for a suitable listing of all towns and communities in the East Gippsland region. A list of 146 towns was found (Gippsland towns, 2014). The VicRoads Country Directory (first edition) was used to map each listed town to a postcode and geographical location. Only 139 of the towns were able to be mapped successfully, and 27

different postcodes were identified. The 27 different postcodes were cross referenced against the Australia Post Localities Directory (APLD, 2014).

Of the seven towns that could not be originally identified, six of them were found in the Australia Post Localities Directory: Cobbannah (3862), Nariel Valley (3707), Nelse (3699), Reedy Flat (3895), Tom Groggin (3707), and Walpa (3875). Reedy Flat (3895) had been listed incorrectly as 'Reedy Creek' on the Gippsland towns webpage and found to be a recognised postal area located outside East Gippsland in central Victoria, so was therefore excluded (Gippsland towns, 2014). Walpa (3875) had been incorrectly spelled as 'Walpha' on the East Gippsland Towns webpage, so was included at Walpa (Gippsland towns, 2014).

The listing of 'Tambo' was not recognised as a postal locality and was therefore removed from further consideration. Seven other postal localities were also removed for further consideration due to overlaps with adjacent regions to the north and west (Hume and Wellington regions respectively). They were: Cobbannah (3862), Dartmouth (3701), Hollands Landing (3862), Mitta Mitta (3701), Nariel Valley (3707), Nelse (3699) and Tom Groggin (3707).

The Australia Post Localities Directory also revealed five new localities in relation to existing postcodes: Banksia Peninsula (3875), Eastwood (3875), Delegate River (3888), Tubbut (3888) and Shannonvale (3898). These were added to the list of potential postal localities for inclusion into the study. A final list of 143 recognised postal localities within 23 recognised postcodes across the East Gippsland region was prepared (see **Appendix 4**).

Step 2: Determining eligibility for selection

Of the 143 recognised postal localities, 90 were excluded based on the following grounds:

- 40 postal localities had no listed private residential addresses; that is, they were rural areas with no roadside postal delivery service or were considered non-residential areas such as picnic grounds or carparks providing access to walking tracks;
- 43 postal localities were either deemed an inaccessible location (for the researcher to drive to safely in her own car), or were more than a two-hour drive from the regional centre of Bairnsdale (to manage interview fatigue for the researcher); and
- 7 postal localities (Lake Bunga, Lakes Entrance, Lakes Tyers, Lake Tyers Beach, Nowa Nowa, Toorloo Arm and Wairewa) comprised a higher proportion of Aboriginal and Torres Strait Islander peoples who were excluded from this study.

A total of 53 postal localities within 18 recognised postcodes were eligible for the final selection process (also see **Appendix 4**).

Step 3: Final selection process

Five different variables were considered to determine the final number of localities and postcodes to be included in this study within the resources available as follows:

1. Population size;
2. Proportion of people aged 65 years and older;
3. Travel time from regional centre of Bairnsdale including the geographical location in relation to the regional centre (noting that Bairnsdale sits in the south west corner of the East Gippsland region); and
4. Community description.

Population size

Population size, derived from 2011 Census data (ABS, 2011) was used to classify locality size. Localities were classified as the regional centre (> 5,000 people); medium or mid-sized localities (1,000 – 5,000 people); or small localities (< 1,000 people).

Proportion of people aged 65 years and older

The proportion of people aged 65 years and older as a percentage of the total community population was calculated for each postcode. Ratios of 10% or less were excluded for selection on the basis that the costs required to effectively sample these towns and communities would be too high.

Travel time and geographical location

Travel time was classified as close (< 20 minutes); medium distance (20 – 40 minutes) and long distance (> 40 minutes). The localities furthest away from the regional centre were generally located north, close to alpine areas (Omeo township, 120 minutes), or east along the coast (Orbost township, 60 minutes). Localities were spread further north and east as the regional centre of Bairnsdale is located in the south-west corner of the region. However, a number of communities, located within 40-minute travel times, were identified both south and west of the regional centre.

Community description

A number of towns were recognised "sea change" retirement areas such as Paynesville, Lakes Entrance and Metung. The Plans for Towns and Localities listed on the East Gippsland Shire Council website (Gippsland community plans, 2014) and 2011 Census data (top five industries) (ABS, 2011) were consulted and descriptions were developed and limited to:

1. Regional centre – all Bairnsdale township postal localities
2. Coastal – towns and communities located on the lakes system or coastal beaches
3. Retirement – postal localities of known retirement area status
4. Farming – rural farming areas and communities
5. Rural – rural areas outside townships with limited farming activity
6. Township – communities with at least four local businesses available (for example, general store, pub, service station, motel, café, caravan park etc)

The final selection of ten East Gippsland areas (comprising 21 postal localities) can be found in Table 4.1.

Table 4.1: East Gippsland Localities selected for the study

East Gippsland Study Area	Postcode	Total Population	Percentage of people aged 65 years and older	Travel time from Bairnsdale (minutes)	Direction from regional centre	Community description
Area 1 - Bairnsdale	3875	> 5,000	20.3	0	0	Regional Centre
Area 2 - Paynesville	3880	1,000 - 5,000	36.3	< 20	South	Coastal / Retirement
Area 3 - Orbost	3888	1,000 - 5,000	25.5	> 40	East	Rural / Retirement
Area 4 - Eagle Point	3878	< 1,000	29.6	< 20	South	Coastal / Farming
Area 5 - Swan Reach	3903	< 1,000	23.4	20 - 40	East	Rural / Retirement
Area 6 - Kalimna	3909	< 1,000	24.3	20 - 40	East	Coastal / Township
Area 7 - Fernbank	3864	< 1,000	17.8	20 - 40	West	Rural / Farming
Area 8 - Ensay	3895	< 1,000	24.0	> 40	North	Rural / Farming
Area 9 - Swifts Creek	3896	< 1,000	19.0	> 40	North	Rural / Township
Area 10 - Omeo	3898	< 1,000	19.6	> 40	North	Rural / Township

The final selection of ten East Gippsland areas provided a potential sampling population of 4,876 people aged 65 years and older.

Determining the number of Research Study Questionnaires required

To estimate the number of questionnaires to be printed, and the number of letter bundles to be prepared, the number of private delivery points for each town and community (selected for

this study) were sourced from Australia Post (APLD, 2014). As shown in Table 4.2, the number of delivery points (or registered 'mail boxes') across the study population was calculated to be 11,626.

In an attempt to achieve comparable numbers of replies from different sized communities, different sampling rates were determined based on the number of private mail delivery points in each sized locality with 100% (or every mail box) for private dwellings in small localities, only 66% (or one in two 'mail boxes') in the medium or mid-sized localities, and 33% (or one in three) across the largest community - the regional centre of Bairnsdale.

As shown in Table 4.2, applying different sampling rates reduced the number of private mail delivery points, and therefore, the number of questionnaires required, from 11,626 to 6,306. The potential sampling population of people aged 65 years and older was therefore reduced from 4,876 to 2,881 people.

Table 4.2: Determining the number of Research Study Questionnaires

Locality	Postcode	Private Street	Private Roadside	Private Box	Private Counter	Private delivery points	Sampling rate	Number of questionnaires required
SELECT SERVICE (Booking Advice Code: UO427273)								
Area 1 – Bairnsdale #	3875	5,009	379	818	56	6,206	33%	2,048
Area 2 - Paynesville	3880	1,859	0	126	0	1,985	66%	1,310
Area 3 - Orbost #	3888	970	0	463	0	1,433	66%	946
Area 4 - Eagle Point	3878	328	0	0	0	328	100%	328
Area 5 - Swan Reach	3903	0	28	105	206	339	100%	339
Area 6 - Kalimna	3909	0	600	0	0	600	100%	600
Area 7 - Fernbank	3864	0	72	0	48	120	100%	120
Area 8 - Ensay	3895	0	43	17	0	60	100%	60
Area 9 - Swifts Creek	3896	0	8	102	315	425	100%	425
Area 10 - Omeo #	3898	0	0	130	0	130	100%	130
Totals		8,166	1,130	1,761	569	**11,626**		**6,306**

 # Urban Centre Locality only

Preparation for postal delivery

The Research Study Questionnaires were printed professionally as an eight-page (double sided) booklet including the Flinders University logo. The Flinders University logo envelopes read '*Invitation to the Householder from Suzy Byers'*. Reply Paid envelopes were also sourced from Flinders University. The 6,306 letter bundles were collated with the help of the researcher's family over a five-week period and organised in batches according to the instructions provided by Australia Post. Special mail trays were provided by Australia Post

for sorting and organising the batches of letters. These mail trays were picked up from the Bairnsdale Post Office in person as part of the Lodgement Order. All mail was delivered, bundled and prepared in the special mail trays to the Bairnsdale Post Office in person by the agreed date. Distribution across the East Gippsland communities took place the following week (see **Appendices 5 and 6**).

Advertising the study

To increase community engagement in the research, and maximise the response rate of the questionnaires, the researcher worked with the Flinders University Marketing and Communication Office to develop a suitable media release and engagement strategy with local (East Gippsland) media. The Flinders University Marketing and Communication Office engaged with media outlets on behalf of the researcher and coordinated responses to any media interest. A media release was written by the researcher with the support and advice of Flinders University journalists, explaining the purpose and importance of the research study (see **Appendix 7**).

This media release was circulated by Flinders University Marketing and Communication Office in keeping with an agreed engagement strategy to local newspapers and radio. The Australian Broadcasting Corporation (ABC) Radio Gippsland were the first to contact the Flinders University Marketing and Communication Office (within 24 hours of receiving the media release), requesting an interview to discuss the research study. Following a practice 'radio interview' with one of the journalists (in the Flinders University Marketing and Communication Office), the author appeared on the breakfast radio show with host Kellie Lazzaro the following morning (7.15am EST). The Flinders University Marketing and Communication Office provided a 'grab' of the ABC Radio Gippsland interview (see **Appendix 8**).

Within a few days of the radio interview, WIN Television (Australian's largest regional television network privately owned by WIN Corporation) requested an interview with the author to create a news story for their evening news broadcast. The researcher travelled from Melbourne to Traralgon to meet the local journalist (and camera man) to shoot the news story. It appeared on WIN Television that evening (29 May 2015) and reached all East Gippsland communities and beyond. An https link to the video clip of this story can be found at **Appendix 9**.

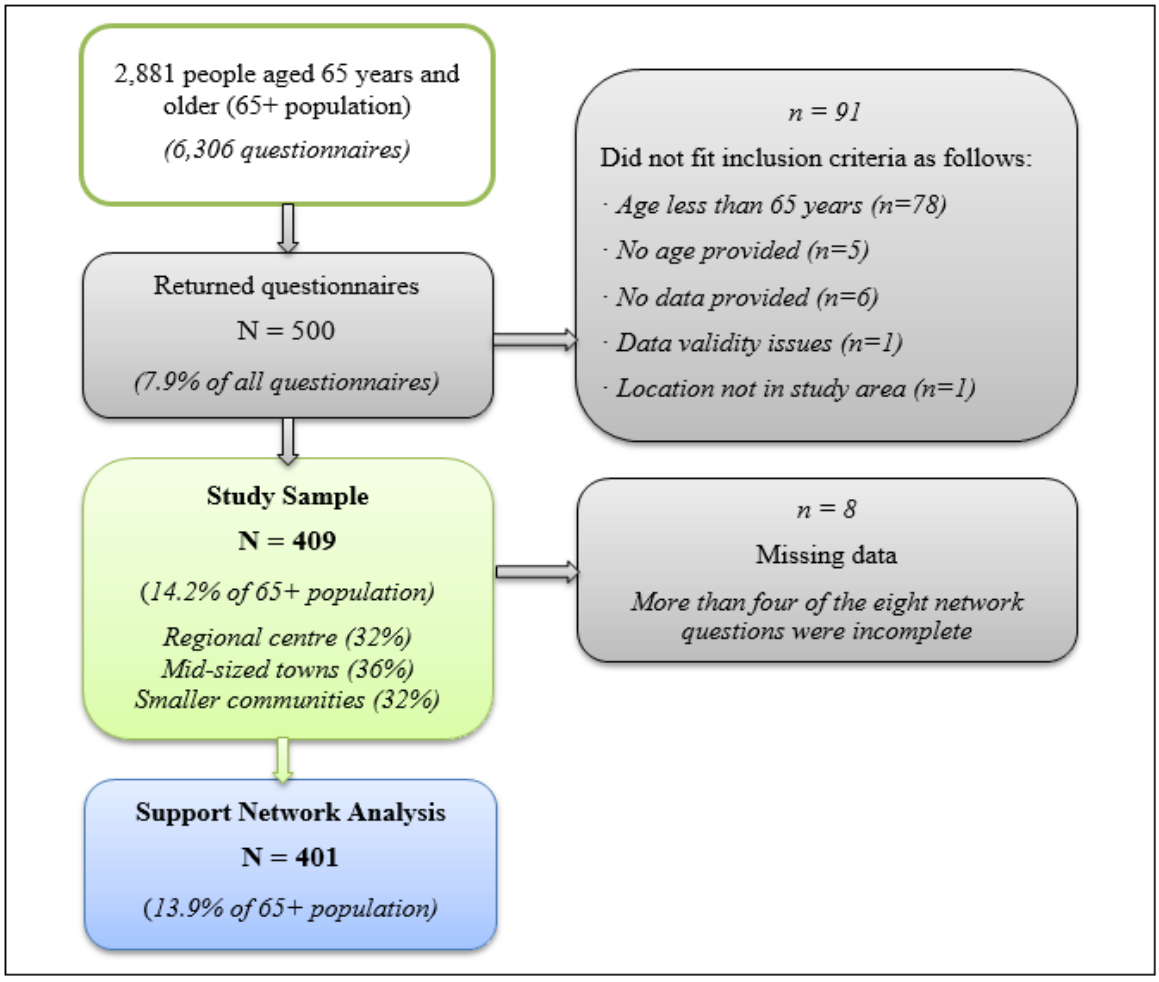
Finally, the local newspaper 'East Gippsland News' ran a story two weeks later. The story was essentially the media release word for word, with the addition of a photo of the author with her father, daughter and grandmother. This Weekly Edition was distributed every Wednesday across the entire East Gippsland region at no charge.

Determining the study sample

A total of 500 people from the East Gippsland Region returned a questionnaire.

As shown in Figure 4.3, a study sample of 409 respondents aged 65 years and older was established, with nearly all respondents providing enough information to be included in the support network analysis; that is, there was less than 2% missing data across the key variables.

Figure 4.3: Flow diagram of selection process



There were 91 respondents who did not fit the inclusion criteria and were unable to be included in the study sample. The most common reason for exclusion from the study was

incorrect age; that is, people who participated were younger than 65 years. While there was a considerable cohort of people aged between 50 years and 64 years (n = 64), there were people as young as 25 years completing the questionnaire and writing detailed comments in the section provided. Many of the younger respondents knew they were not in the correct age group but said in their comments that they wanted to share their experiences of older parents, older neighbours and other older people living in their communities, illustrating a considerable enthusiasm for this study. In fact, overwhelmingly, more than two thirds of all respondents self-selected for a follow-up interview (70%, n=283). The response rate from the questionnaire mail out captured 14.2% of the East Gippsland Region population aged 65 years and over, including a good balance of people living in the three different sized East Gippsland communities, from the large regional centre of Bairnsdale through to smaller towns and rural communities.

Data entry

The researcher used IBM SPSS Statistics Package Version 22 to log questionnaire data. Case numbers were allocated to questionnaires at the time of data entry. An SPSS Data File was created containing 22 variable fields. All data that were unable to be accurately assigned a designated number or text field within the SPSS Data File (that is, they were illegible, incomplete or confusing), were treated as missing data and assigned the number '99'. The exception to this was for the data fields of two variables where '99' was regarded as a valid data response, such as variables describing '*age*' and '*how long you have lived in the area*', so the missing data number assigned to these two variables was '999'.

Minimising data entry errors

To reduce the existence of any unintended data entry errors, all questionnaire data was independently entered for a second time into a new and separate SPSS data file. Following data entry, each data field in the second data file was compared with the original data file using the SPSS analysis function '*compare data sets*'.

There were 130 differences identified across the 22 variables (11,000 data fields), and each difference was checked by hand (returning to the hard copy questionnaire) for resolution. There were 73 errors confirmed and corrected in the 'original' data set, with confirmed errors ranging from 1 error in 500 through to 9 errors in 500. An estimated error rate was calculated for each variable to identify if any individual variables were more prone to error in the data entry phase. It should be noted that the Wenger *Practitioner Assessment of Network Type*

instrument is very sensitive, so error correction was important for the network type assignment.

The average error rate for the data set was calculated to be 3.5 errors per 500 cases (or 0.7% of all cases). The complete list of the number of errors identified and the corresponding error rates for the data entry for each variable can be found at **Appendix 10**.

Importantly, this '*double data entry*' process enabled the accuracy of the original data set to be maximised.

Data transformations

Several data transformations were required to enable chi square (χ^2) testing for independence to be undertaken. The selection of chi-square testing was made following consideration of the volume of nominal (or categorical) data and the best test to analyse these data. For samples smaller than 50 cases, a Fisher Exact Test was also undertaken to confirm the reliability of the chi-square test. All chi-square tests presented in this thesis returned expected cell counts with valid results.

Ratio (continuous) variables were also transformed into ordinal categories commonly used by policymakers and practitioners when describing older age groups (e.g., 65+, 75+, 80+ etc.) and generations (e.g., 25 years). In addition, two Kruskal Wallis tests were undertaken on ratio variables for age and length of residency across the five Wenger network types. This highlighted any trends of significance for the discussion of network characteristics.

Nominal variables

Geographic locations

Respondents were asked to name the '*closest town to where you live*' to enable confirmation of the geographic location of respondents in this study. The data in this field was discovered to be generally poor when cross referenced to addresses provided. Addresses were provided by 70% of all respondents, that is, those that nominated themselves to participate in an interview with the researcher, and therefore provided contact details, including addresses. To improve the data quality in this variable, all geographic data was recoded based on contact details, and then recoded into one of the ten study population localities, firstly as string variables, and then as numeric variables. Finally, this data field was also recoded to create the three broad size groupings as determined in the methodology – the regional centre of

Bairnsdale, medium sized towns (Orbost and Paynesville), and small towns (all other locations), to enable statistical analyses related to town size as per **Appendix 11**.

Gender and Living arrangements

The two remaining nominal data categories of gender and living arrangements did not require data transformation. They were each assigned categories as follows: gender ('female' and 'male') and living arrangements ('lives alone' and 'lives with someone else/others')

Ratio variables

To enable Chi Square (χ^2) testing between the ratio variables of '*age*' and '*how long you have lived in the area*', and nominal data (such as '*gender'* and *'social network types*') or ordinal data (such as *'subjective health status'* or *'levels of education'*), ratio variable data was transformed into ordinal data groups (with groupings of not more than three).

Age

Age groups were created based on the five Australian Bureau of Statistics Census age group rankings (65 – 69 years; 70 – 74 years; 75 – 79 years; 80 – 84 years; and 85 years or older), and then collapsed into three groups, also used by the Australian Bureau of Statistics ('65 – 74 years; 75 – 84 years; and 85 years or older), as well as two groups ('65 – 74 years' and '75 years and older'), where required to enable valid statistical testing (ABS, 2011).

Length of residency

Residency groupings ('*how long you have lived in the area*') were more difficult to determine because studies grouping this type of data did not provide evidence or robust discussions about the method applied in creating the final groupings. Personal communication with Burholt (2013), suggested a cut off at 25 years, previously used in UK studies. Data was assigned into two groups as follows 'Less than 25 years' and '25 years or more'

Ordinal variables

The remaining demographic variables of marital status, health status, and levels of education, as well as all network data, were classified as ordinal data. All ordinal data required a data transformation to enable valid statistical testing. All ordinal data was recoded into smaller groups (see **Appendices 12 and 13**).

Wenger Algorithm

The Wenger analysis can be undertaken manually (Wenger, 1991, 1994) or digitally using the Wenger *Algorithm*, a SPSS Data Syntax File under Copyright. Raw network data in this research study was handled digitally through the application of the Wenger *Algorithm.* The researcher received access and permission to use the Wenger *Algorithm* by Professor Vanessa Burholt (Swansea University).

Storage of quantitative data

The College of Nursing and Health Sciences and the Flinders University Mail Room stored reply paid mail in a confidential manner prior to the PhD student gaining access. The storage of the hard copy questionnaires, and all associated digital material (e.g., SPSS data files), will be held for five years post the submission of the PhD thesis in line with the *National Statement on Ethical Conduct in Human Research (2007)* (updated in 2018).

Phase 2 – Qualitative Phase

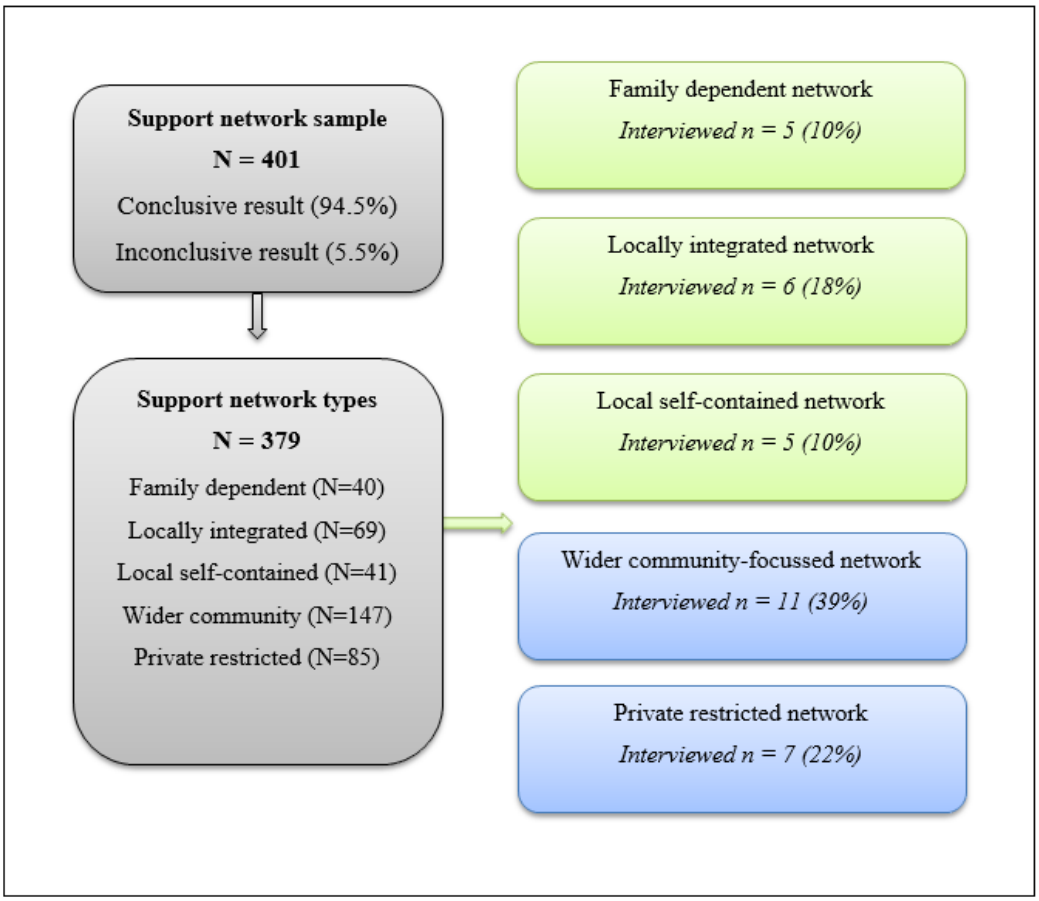
Qualitative data was collected through both questionnaire comments and semi-structured interviews. The researcher allowed for up to 35 interviews over a 6-month period, and partly self-funded costs associated with travel and accommodation for these interviews.
A thematic analysis was developed for this study using all of the qualitative data available. The thematic analysis was used as a framework to present the qualitative findings of this research.

Determining the interview sample size

Participants were recruited from Phase I by self-nomination via the research study questionnaire. Approximately 70% of all eligible participants self-selected to participate in an interview with the researcher (n=283). As per Figure 4.4, a total of 34 interviews were conducted with older people across the five different network types.

The number of interviews selected per network type were proportional to the total number of people found within each network type. This was to ensure the breadth and depth of the network type, especially the more populous networks, was appropriately explored.

Figure 4.4: Summary of the participants selected for interviews



Interview selection process

Participants from each of the five distinct network types were randomly selected. A random number generator was used to order the SPSS ID number of all potential interviewees (that is, older people who had self-nominated for an interview). Older people received a phone call from the PhD student researcher to determine both availability and interest in proceeding with an interview. A letter (either hard copy via postal mail, or a soft copy via email) was provided to each potential participant who agreed to an interview. The letter included a copy of the written consent form (see **Appendix 14**).

Interviews were arranged with each older person at a mutually agreed time and location (older person's home or other private location of their choice). The written consent form was discussed, completed and signed with the researcher on the day of the interview, prior to the interview proceeding. Interviews were semi-structured providing older people with the opportunity to share their day-to-day experiences of living in a rural community, in addition to answering specific questions.

A copy of the interview schedule can be found at **Appendix 15**. It should be noted that as part of the ethical considerations of this research study, no older person with cognitive impairment was selected for interview. There was also an interview protocol between the PhD student and PhD Supervisor in place to support both the student researcher and the older person being interviewed should unexpected circumstances arise (e.g., PhD student's digital recorder failed, or older person's pet became aggressive etc.)

Thematic analysis of qualitative data

Data collection

There were 188 comments provided by older people (averaging 45 words per comments) via the Phase 1 questionnaires. Semi-structured interviews were conducted with 34 older people, and interview times varied between 35 minutes and 2 hours. Interview notes were taken, and nearly all interviews were digitally recorded (one person declined to have their interview recorded) to enable transcripts for analysis to be developed.

Thematic analysis

Thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data (Braun & Clarke, 2006). Braun and Clarke (2006:81) identified the six steps for undertaking an analysis. They include the author: familiarising themselves with the data; generating initial codes, searching for themes; reviewing themes; defining and naming themes; and producing the report. Due to the volume of qualitative data received through the questionnaires this process was extended to encompass both sources of qualitative data.

The steps taken in this research were as follows:

1. All comments from the questionnaires were reviewed, and initial codes generated
2. 17 potential themes were identified and used to inform the semi-structured interviews
3. 33 out of the 34 participants agreed to a digital recording of the interview
4. Interviews notes were also taken during each interview
5. The digital recordings were partially transcribed; that is, only material directly relevant to the interview were transcribed verbatim (e.g., discussions about the virtues of a pet, the weather or a favourite book were not transcribed).
6. All interview notes and transcripts were reviewed, and preliminary themes identified
7. Themes from both sets of qualitative data were reviewed and refined
8. Three high level themes and eight sub-themes were defined and named
9. Vivid examples were identified for inclusion into the presentation of results.

While the quantitative phase utilised taking a positivist epistemological approach, a combined reflective and reflexive approach was taken in the thematic analysis, that is, the identification of existing themes that aligned well or not with the quantitative data were sought but also meaning was attributed to data and themes as required.

Storage of qualitative data

All digital files and notes taken at the interview were stored appropriately whilst travelling (locked case) and stored within the researchers own home during the interview phase of the research (locked filing cabinet). The storage of raw digital interview data and all associated written material (e.g., transcripts), will be held for five years post the submission of the PhD thesis in line with the *National Statement on Ethical Conduct in Human Research (2007)* (updated in 2018).

Chapter Five: Presentation of Results: Part 1

Introduction

This chapter is the first of two chapters presenting the results of this study.

This chapter, Presentation of Results: Part 1, begins with a description of the study sample using descriptive statistics to highlight the basic features and key trends of this cohort of older people. The study sample description is followed by a presentation of the sample bias. The sample bias highlights any significant differences found in the study sample that may limit the generalisability of the study findings to the wider East Gippsland population aged 65 years and older.

The next section in this chapter outlines the findings of the Wenger support network analysis, showing that the Wenger *PANT* instrument conclusively derived the five distinct Wenger networks from the study sample data. This is followed by a description of how the characteristics of each Australian Wenger network will be presented throughout both results chapters, utilising both quantitative data (analysed from the questionnaires) and qualitative data (from both questionnaires and interviews). A presentation of the thematic analysis of all qualitative data, generated as part of this study, completes this section.

This chapter concludes with the presentation of the first two of five network profiles, the two largest networks, the *wider community focused* network and the *private restricted* network.

The following chapter, Chapter Six: Presentation of Results: Part 2, begins with a presentation of the network characteristics and profiles of the three smaller networks, the *locally integrated* network, the *local self-contained* network, and the *family dependent* network. A summary of all network findings completes this section. Finally, the community network profiles found across the East Gippsland region are presented before Chapter Six: Presentation of Results: Part 2 concludes with a summary of the results generated from this chapter.

Describing the study sample

To describe the basic features and key trends of the study sample, the quantitative research data was analysed; utilising both the network data and the demographic variables collected. The test for independence (*chi-square*) calculation was used to identify any findings of

significance. Please note that all network frequency data and all tests for independence are presented in tables in **Appendices 16 and 17.**

Presentation of descriptive statistics

The overall study sample consisted of 409 valid participants aged 65 years and older. The study participants ranged in age from 65 years to 96 years old, with more women participating compared to men (58% versus 42% respectively). Interestingly, the average (*mean*) age of both sexes was found to be the same, 75 years old (M = 74.65, SD = 7.18), therefore, despite fewer absolute numbers, there was a higher proportion of men in the oldest age groups participating in this research. There were six men as well as six women aged from 90 years to 96 years who participated in the study.

Table 5.1: Study sample: relationship between gender and age

Gender		**Age groups (years)**						**Total**
		65 – 69	**70 -74**	**75 – 79**	**80 – 84**	**85 – 89**	**90 – 96**	
Female	Count	63	71	39	40	16	6	235
	% within age group	53.4	71.0	48.1	65.6	45.7	50.0	57.7
Male	Count	55	29	42	21	19	6	172
	% within age group	46.6	29.0	51.9	34.4	54.3	50.0	42.3
Total	Count	118	100	81	61	35	12	**407**
	% within age group	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Around half of all participants (55%) were married, while the rest were widowed (28%), or not married (13%) or had never married (4%). Older women were just as likely as men to be married or not married, but the majority of older widowed people were women (80%). Additionally, there were more older men who had never married when compared to older women (60% versus 40% respectively), but more older women than older men who lived alone (65% versus 35% respectively). These findings were found to be statistically significant (χ^2 (3,405) =33.179, p = **<.001** and χ^2 (1,380) = 4.924, p = **.026** respectively).

Most participants (73%) indicated they were in good health. For those in poorer health, only a few (4%) felt that their health was 'generally poor', while the rest (25%) felt their health was a 'bit up or down'. Only one male respondent spoke a language other than English regularly at home, and consistent with the study methodology, none of the study participants identified as Aboriginal or Torres Strait Islander Peoples.

Nearly all participants were parents (95%), and most of them still had living brothers and sisters (81%). However, just under half of all participants (48%) were living more than

100km away from their closest child; but more (58%) lived this distance from their closest brother or sister. This was perhaps not surprising with Melbourne, the capital city of Victoria, located approximately 300 kilometres away.

Although more women participated in this study compared to men, gender did not play a significant role in determining the proximity of the closest relative. That is, relatives were not living in closer proximity to participants of a particular sex (χ^2 (1,396) = 1.559, p = .212).

Interestingly, more relatives were found living in closer proximity to older people who were widowed (χ^2 (3,396) = 13.260, ***p* = .004**) but not to older participants who were living alone (χ^2 (1,369) = 0.086, p = .769). Further investigation found that widowed participants were generally located in the larger communities of Bairnsdale, Paynesville and Orbost (χ^2 (4,401) = 10.168, ***p* = .038**) with older people living in Bairnsdale itself having the highest number of relatives living in proximity (χ^2 (2,392) = 16.327, ***p* = <.001)**. This was perhaps not surprising, with Bairnsdale, as the East Gippsland regional centre, offering a wide range of employment and studying opportunities for adult children and their families. However, participants living in Bairnsdale were also found to have the highest levels of long-term residency compared to people living in other communities (χ^2 (2,401) = 7.186, ***p* = .028**), suggesting that widowed Bairnsdale participants may have lived in proximity to relatives before they were widowed.

The size of town was also found to be statistically significant in relation to age group, with more respondents aged 65 years to 84 years living in small and mid-sized East Gippsland communities, while a greater proportion of respondents aged 85 years and older were found living in Bairnsdale (χ^2 (4,403) = 16.098, ***p* = .003**). However, the size of town did not impact on participation in social clubs and community activity (χ^2 (2,398) = 1.934, p = .380). Age, marital status, living arrangements or length of residency also did not influence participation in social clubs and community activities (χ^2 (2,404) = 0.799, p = .671, χ^2 (3,402) = 4.874, p = .181, χ^2 (1,375) = 0.519, p = .471 and χ^2 (1,402) = 1.737, p = .188 respectively). However, women were found to participate in social clubs and community activity more regularly than men (χ^2 (1,402) = 10.070, ***p* = .002**), and perhaps unsurprisingly, participation in social clubs and community activity was impacted by health (χ^2 (2,402) = 6.514, ***p* = .039**). The small numbers of older people who indicated their health was ‘generally poor’ (n=18) did not participate as regularly as those who were a ‘bit up and down’ (n=93) or as much as those who were in good health generally (n=291). In addition, participants in poorer health tended

to have families living in closer proximity rather than those in good health (χ^2 (1,396) = 7.392, ***p* = .025**), however, health status did not influence the level of contact study participants had with relatives by telephone calls (χ^2 (,402) = 1.234, *p* = .540) or by information and communication technology (ICT) use (χ^2 (1,395) = 1.419, *p* = .492). In fact, most participants (75%) were found to have at least weekly contact with their families, even those living at distance.

There was also evidence of regular 'weekly or more often' face-to-face contact between study participants and their friends (81%) and their neighbours (62%). Although women were found to be more likely than men to speak to their relatives (χ^2 (1,402) = 8.138, ***p* = .004**) and friends (χ^2 (1,395) = 12.405, ***p* < .001**) on the telephone and to stay in touch with relatives by ICT (χ^2 (1,404) = 4.729, ***p* = .030**).

Finally, there were high levels of post-secondary qualifications found for both the men and women participating in this study. More than one quarter of study participants (29%) indicated that they had completed university studies (tertiary education) and just over one fifth (21%) had completed Technical and Further Education (TAFE). There was a gender difference in the completion of post-secondary qualifications, with more women completing university studies when compared to men, and more men completing TAFE courses compared to women (χ^2 (1,198) = 12.637, ***p* < .001**).

In conclusion, the study sample comprised more women than men, but male participation from the oldest age groups was strong. Nearly all of the participants were parents, and the majority of participants still had living siblings. Just over one quarter of the cohort was widowed, and relatives were found to be living in close proximity to widowed older people of both sexes. The majority of widowed participants lived in one of the larger East Gippsland towns, and the majority of people aged 85 years and older lived in the regional centre of Bairnsdale itself. Interestingly, more than half of the older people in this study lived at distance from siblings and adult children, suggesting strong migration patterns in and out of the East Gippsland region. There were also high levels of post-secondary qualifications across the study cohort, although older women were more likely to have a university qualification compared to men, and older men were more likely to have a TAFE certification compared to women. Finally, the majority of study participants were in subjective good health, and participation in social and community activities was common.

Determining the sample bias

There were two significant trends identified across the study sample that warranted further investigation. The atypical age profile of male participants, and the post-secondary education profile found across this cohort of older people. Inferential statistics were used to determine if these trends were a characteristic of the study cohort itself or if these trends existed more broadly across the East Gippsland population of people aged 65 years and older.

Presentation of inferential statistics

An analysis of both the female and male profiles (as shown in Table 5.2), revealed that while the female participant profile (in relation to age, marital status and living arrangements) was found to be representative of women living across the East Gippsland community, the male participant profile in this study was atypical of the broader community, and specific to the study cohort. This meant that findings related to older men in this study could not be taken as representative of men across the East Gippsland community. This sample bias was addressed in the discussion of the study findings.

Table 5.2: Comparison of study sample with East Gippsland Region by age group: Part 1

Variables of interest	% Study Sample (n=407) *			*% East Gippsland Region (n=9,825)*			
	65 – 74	75 – 84	85 yrs +	*65 – 74*	*75 – 84*	*85 yrs +*	*p-value^*
All Females	56.2	34.5	9.4	*54.6*	*32.0*	*13.4*	*.150*
All Males	48.8	36.0	15.1	*60.5*	*30.4*	*9.1*	***.002***
Married Females	73.2	25.9	0.9	*69.7*	*26.3*	*4.0*	*.360*
Married Males	55.4	34.8	9.8	*63.2*	*30.3*	*6.5*	*.120*
Widowed Females	31.5	46.7	21.7	*27.4*	*42.8*	*29.8*	*.240*
Widowed Males	4.3	47.8	47.8	*26.0*	*41.6*	*32.4*	***.040***
Not Married Females	66.7	30.0	3.3	*68.9*	*24.9*	*6.1*	*.570*
Not Married Males	55.6	33.3	11.1	*71.8*	*23.5*	*4.7*	*.070*
Living Alone Females	40.4	43.3	16.3	*37.0*	*44.2*	*18.8*	*.640*
Living Alone Males	37.5	37.5	25.0	*52.2*	*33.7*	*14.0*	***.030***
Living Other Females	71.2	26.3	2.5	*68.0*	*26.8*	*5.1*	*.420*
Living Other Males	55.9	34.3	9.8	*62.6*	*30.8*	*6.6*	*.270*

* *Two respondents did not provide a valid response for the gender variable; ^Chi-square calculations provided in Appendix 18*

Table 5.3: Comparison of study sample with East Gippsland Region by age group: Part 2

Variables of interest	% Study Sample (n=407)*			*% East Gippsland Region (n=9,825)*			
	65 – 74	75 – 84	85 yrs +	*65 – 74*	*75 – 84*	*85 yrs +*	*p-value^*
TAFE Females	53.3	43.3	3.3	*67.6*	*24.6*	*7.9*	*.109*
TAFE Males	43.4	37.7	18.9	*67.4*	*26.2*	*5.4*	***<.001***
University Females	62.0	31.0	7.0	*66.9*	*27.0*	*6.1*	*.592*
University Males	68.2	31.8	0.0	*72.4*	*24.4*	*3.1*	*.377*

* *Two respondents did not provide a valid response for the gender variable; ^Chi-square calculations provided in Appendix 18*

In relation to the post-secondary education profile (as shown in Table 5.3), inferential statistics (see **Appendix 18**) revealed that while there were high numbers of female participants aged 75 years and older with post-secondary school certificates or qualifications in this cohort, this was not statistically significant when compared to the broader East Gippsland regional profile.

Similarly, while there were high numbers of male participants aged 75 years and older with post-secondary school certificates or qualifications in this cohort, when compared to the East Gippsland community more broadly, only a TAFE certification in men aged 85 years and older was found to be statistically significant. This highlights there is both wide-spread tertiary and post-secondary education amongst older people living across the East Gippsland region, and that men aged 75 years and older with a post-secondary TAFE certification participated more fully in this study compared to men aged from 65 years to 74 years with the same certification.

In conclusion, there was an overrepresentation of men who were aged 85 years and older, or widowed, or living alone or TAFE certified in this study. Therefore, findings relating to men in this study were not considered generalisable to men aged 65 years and older across the East Gippsland community. This sample bias is addressed in the discussion of study findings. However, it was noted that the overrepresentation of men aged 85 years and older (and/or widowed and/or living alone) offered rare insights into the supportive networks of the oldest East Gippsland men, suggesting strengths in the study methodology for future social research with men aged 75 years and older.

The support network analysis

The Wenger *Support Network Typology* comprises five different network types. These five distinct support network types distinguish different personal circumstances and lifestyle preferences of the older person, as well as reflect their interactions with the place or community in which they live. The application of the Wenger *PANT* instrument enables the allocation of older people into the Wenger *Support Network Typology*, noting that approximately 95% percent of older people should receive a conclusive result (Wenger, 1994, 2002).

This research sought to understand if the Wenger *PANT* instrument could successfully allocate older people living in rural Australian communities into the Wenger *Support Network Typology*: that is, was the Wenger *PANT* instrument effective for use in an Australian population.

A total of 401 study participants provided responses to the eight questions that made up the Wenger *PANT* instrument. As shown in Table 5.4, the Wenger *Algorithm* allocated 94.5% of the East Gippsland study sample conclusively into the Wenger network types, with only 5.5% of older people receiving an inconclusive result.

Table 5.4: Allocation of Wenger Support Network Types for Australian study sample

Support Network Type	**N**	**Percentage (%)**
Family Dependent	40	10.0
Locally Integrated	69	17.2
Local Self-Contained	41	10.2
Wider Community Focused	147	36.7
Private Restricted	82	20.4
Subtotal	*379*	*94.5*
Inconclusive	22	5.5
Total	**401**	**100.0**

The conclusive allocation of the East Gippsland study data into the Wenger *Support Network Typology* showed that the Wenger *PANT* instrument was effective in allocating Wenger network types across an Australian population. Of note, the missing data in this study sample was very low (1.9%), with only eight (n=8) questionnaire respondents not providing enough information across the eight network questions to enable the Wenger *Algorithm* to be applied.

In summary, the support network analysis was able to conclusively allocate 95% of older people participating in this doctoral research into the Wenger *Support Network Typology*. This demonstrated that the Wenger *PANT* instrument was effective in the rural Australian population.

The Australian Wenger support networks

To enable a comparison of the Australian Wenger networks with the original Welsh Wenger networks, a description of the key features and characteristics of each Australian Wenger network was developed as part of this doctoral research. A description of each network is presented in two parts: (A) an analysis of the quantitative data collected from the questionnaires; and (B) a discussion of the themes generated from the study's thematic analysis. Please note that the qualitative data was sourced from data collected at interview, as well as the qualitative data provided by respondents in the questionnaires.

The quantitative analysis utilised *descriptive statistics,* and the chi-square (χ^2) test of independence calculation to identify trends of significance. Key demographic variables such as age, gender, marital status, health status, education status and living arrangements, as well as place and length of residency, were tested within each network profile. Key themes from the study's thematic analysis were used to describe the *lived experience* of older people embedded within a given network.

Presentation of thematic analysis

Themes identified and coded across the qualitative data were collapsed into three main themes, and eight sub-themes, as detailed in Table 5.5.

The first main theme of *Supportive Relationships* brought together the range of supportive relationships as described by older people. These might be physical help with the garden or household tasks, preparing a meal or providing transport to medical appointments. These might also be emotional support, such as helping to make decisions, providing companionship, affection or joy, or providing supportive advice. The roles of spouses and partners, adult children and other relatives, friends, and neighbours are discussed separately as subthemes.

The second main theme related to *Neighbourhoods and Community Engagement,* and data about a sense of belonging, volunteering and helping others, and of community and safety in

local neighbourhoods, was brought together. One of the key components of this theme related to patterns of migration and choices made by older people to; move into the East Gippsland region, to move around within the region, or to stay following the out-migration of adult children and grandchildren. The proximity of friends and family, the level of participation in social and community activities, preferences for staying within the home environment, opportunities to enjoy solo outdoor activities or spending time alone, all contributed to feelings of belonging, enjoyment of place, and in making choices to move or stay.

Table 5.5: Description of main themes and sub-themes from thematic analysis

Theme #	**Theme title**	**Key factors influencing social support**
1	Supportive relationships	Affection, mutual interests, accessibility to social support. Also experiences of filial duty or moral obligation
Sub theme	*Intimate relationships*	*Roles of spouses and partners, experiences of widowhood. Also experiences of never married*
Sub theme	*Family*	*Roles of adult children, siblings, other relatives, intergenerational relationships with grandchildren. Also experiences of childlessness*
Sub theme	*Friends*	*Roles of local friends, close friends, and old friends both locally based and at distance*
Subtheme	*Neighbours*	*Roles of near neighbours (next door) and more distant neighbours (up the road)*
2	Neighbourhoods and community engagement	Migration both before and in older age, sense of community, level of participation in local events and social activities, work, and participation in formal volunteer activities
Subtheme	*Being alone*	*Home activities, levels of self-sufficiency, experiences of loneliness*
3	Accessibility	Factors impacting access to services and community activities
Sub theme	*Paying for support*	*Access and coordination of services, preferences around paying for services and care*
Sub theme	*Motor vehicle driving*	*Driving independence and access to public transport*
Sub theme	*Access to medical care*	*Management of acute and chronic health problems, local facilities and health insurance*

The third main theme related to *Accessibility.* It combined the qualitative data that related to access to services; whether that was access to public transport or taxis, shops or restaurants,

medical appointments or hospitals, or social and community activities. In particular, this theme captured older people's experiences of making independent choices such as choices in driving or not driving, or paying for services or relying on others for the provision of services, whether that related to household maintenance tasks or simple subsistence activities such as shopping or preparing meals.

In conclusion, older people identified a range of relationships, feelings and activities that contributed to their sense of wellbeing and to routines of everyday life. In particular, supportive relationships, a sense of belonging and safety within a local neighbourhood, and the accessibility of services were all important components that contributed (or not) to the level of social support experienced by older people living the East Gippsland region.

The final sections of this chapter comprise the presentation of the first two Australian Wenger networks, the two networks with the largest number of participants, the *wider community focused* network and the *private restricted* network.

The Wider Community Focused Support Network

Introduction

The *wider community focused* support network is typified by active relationships with geographically distant relatives, usually children, as well as local friends and neighbours (Wenger, 1991, 1994). The distinction between friends and neighbours is maintained, and older people are generally involved in community activities or voluntary organisations. The number of network ties in this network type is typically larger than average. This network is commonly considered a middle-class or skilled working-class adaptation and is frequently associated with retirement migration.

The *wider community focused* support network in the East Gippsland data was found to be the largest network in the Australian *Wenger Support Network Typology*, (39%, n=147); that is, the greatest number of older people in the East Gippsland study sample were embedded in this network type. The key network characteristics of the Australian *wider community focused* support network are presented through both a quantitative data analysis and a discussion of key themes from the study's thematic analysis. A summary of key findings concludes this section. Please note that all network frequency data and all tests for independence are presented in tables in **Appendices 19 and 20.**

Identifying key network trends

The majority of *wider community focused* older people (72%) were found to live more than 100km away from their closest relative. It was therefore not surprising to find that face-to-face contact between older people and their relatives was generally low, with 88% of older *wider community focused* people only seeing their relatives at least monthly (25%) or less frequently (63%). Interestingly, longer term residents or those living in mid-sized or smaller East Gippsland towns or communities, were the most likely to have relatives living more than 100km away (χ^2 (1,146) = 6.053, ***p* = .014** and χ^2 (2,145) = 6.988, ***p* = .030** respectively). This points to both a potential out-migration of children for education or work opportunities, or the potential retirement migration of older people to mid-sized and smaller East Gippsland towns and communities. Looking more closely at length of residency patterns, age and health status were found to be significant factors (χ^2 (1,147) = 3.704, ***p* = .054** and χ^2 (1,147) = 4.125, ***p* = .042**), with people aged from 65 years to 74 years and in good health more likely to have moved within the last 25 years when compared to people aged 75 years and older or those in poorer health. While 25% of this cohort was found to have a relative living in closer proximity; either between 21km and 100km away (n=20) or a relative living within 20km (n=20), there was evidence of migration patterns here too. More than half of this cohort had moved to their current place of residence within the last 25 years. This data trend provided evidence of retirement migration in this network type.

Patterns of regular contact by telephone or information and communication technology (ICT) were common: that is, even those living at distance were in regular communication with their relatives. In fact, 73% of people spoke with their relatives by telephone at least weekly or more often; with 21% speaking with relatives two to three times a week and 8% on a daily basis. While the use of ICT was less frequent than telephone calls, more than half of older *wider community focused* people (55%) had contact with their relatives by email, video calls or texts at least weekly (30%) or more often (25%). Of particular significance, was that older people who lived in closer proximity to their relatives and adult children, who in addition to seeing them more often (at least weekly visits were common) were also in more frequent contact by telephone calls or ICT when compared to relatives who lived further away (χ^2 (1,146) = 6.137, ***p* = .013** and χ^2 (1,144) = 4.460, ***p* = .035** respectively). This finding was unexpected, but further tests for independence were definitive; confirming that older people who experienced more frequent face-to-face contact with their relatives also shared more

frequent phone calls (χ^2 (1,147) = 16.721, ***p* < .001**) and more frequent ICT contact (χ^2 (1,145) = 14.839, ***p* < .001**). These findings suggested one of two things:

1. That face-to-face contact was important for the maintenance of relationships, with phone calls and ICT use more supplementary to, rather than a replacement for, face-to-face contact; or
2. That more regular face-to-face contact required more communication and organisation, hence the increase in phone calls and ICT use.

Nevertheless, these findings confirmed that despite living at distance from each other, there was regular contact between the majority of the older people in this network type and their relatives, and that maintaining *active* relationships with relatives and children while living at distance appeared to be broadly consistent in this Australian cohort, noting that eight people did not have children, and nearly one quarter (21%) no longer had living brothers or sisters.

Interestingly, patterns of contact by telephone and ICT were not influenced by older people's health status; that is, older people in poor health did not have more telephone or ICT contact with their relatives compared to those in good health (χ^2 (1,147) =1.038, p = .308 and χ^2 (1,145) = 0.250, p = .617 respectively). However, poorer health was found to be of significance when it came to face-to-face contact with local friends (χ^2 (1,147) = 5.268, ***p* = .022**). Older people in poorer health generally spent less face-to-face time with friends, although health status did not impact on levels of telephone contact and ICT use (χ^2 (1,147) = 0.134, p = .714 and χ^2 (1,144) = 0.106, p = .745). The significant impact of health status on contact with friends was important because nearly all of the older people in this network type (95%) reported that they saw friends at least weekly or more often, with more than one third (36%) of participants seeing friends several times a week and 18% seeing friends on a daily basis.

While face-to-face contact with friends was more frequent than telephone calls and ICT use in this group of people, telephone and ICT use patterns with friends were similar to those with relatives. Around three quarters of all respondents (78%) spoke to friends on the phone at least weekly or more often, and just over half (53%) used ICT just as often. Perhaps not surprisingly, people aged from 65 years to 74 years were found to be more frequent users of ICT when compared to study participants aged 75 years and older (χ^2 (1,144) = 7.339, ***p* = .007**). Nevertheless, it was clear that older people in this network type generally had more

frequent contact with their friends rather than their relatives, and the majority of contact with friends was face-to-face contact.

There was also a clear trend of wide-spread engagement in social and community activities across older *wider community-focused* respondents with 88% of all respondents in this network type involved in social groups and community activities. Participation in religious services and events was common with one quarter of this cohort (25%) found to regularly attend religious services and events, while another 18% attended occasionally. People aged 75 years and older were found to attend more regularly when compared to people aged from 65 years to 74 years (χ^2 (1,147) = 6.455, ***p* = .011**). The level of involvement in social groups and community activities was not influenced by age, gender, health status, living arrangements or the size of town (χ^2 (1,147) = 0.083, p = .773; χ^2 (1,147) = 0.675, p = .411; χ^2 (1,147) = 2.945, p = .086; χ^2 (1,135) = 1.471, p = .22; or χ^2 (2,146) = 1.007, p = .604 respectively), which suggested that people in this network type sought to be involved in their communities no matter where they lived. Older people who were longer-term residents, as well as older widowed people and those who were not married or never married, were found to be more *regularly* involved in community activities compared to older people who were newer to the area or married (χ^2 (2,147) = 10.127, ***p* = .006** and χ^2 (2,147) = 7.102, ***p* = .029**). These were not surprising findings given longer term residents were more established in the community, and people who were widowed or not married and never married perhaps more motivated to have the company of others. In fact, the majority of people who were widowed were living alone (94%) as well as a large proportion of people who were not married (77%).

The majority of widowed respondents lived in the larger communities of Bairnsdale, Paynesville and Orbost (89%), while respondents who were not married typically lived in Paynesville (58%) or lived scattered amongst the smaller East Gippsland communities (31%). Of significance, more than half of *wider community-focused* participants living alone (54%) were found to be residents of the mid-sized community of Paynesville, a well-known socially active retirement destination (χ^2 (2,134) = 9.596, ***p* = .008**). This was consistent with the previous finding that highlighted the importance of social participation for older people who lived alone.

Finally, there was wide-spread contact with neighbours, with the majority of respondents (71%) having contact at least weekly or more often. The size of the town (χ^2 (2,145) = 0.111, p = .946), living arrangements (χ^2 (1,134) = 0.243, p = .622), age (χ^2 (1,146) = 0.986, p =

.321), gender (χ^2 (1,146) = 0.022, p = .882) or health status (χ^2 (1,146) = 0.001, p = .971) were not found to impact on contact with neighbours, highlighting relationships with neighbours was relatively robust with the onset of ill health and disability.

Conclusion to descriptive statistics

Older people in this network type were active socially, saw their friends at least weekly or more often, and participated in social activities regularly. They were also found to have frequent contact with their neighbours. There was evidence of retirement migration in later life based on the length of residency of both the older person and their closest relative and/or child, however this was not considered conclusive from the data available. Older people in this network type usually lived at distance from relatives, therefore face-to-face contact was generally low; at least monthly or less often. However, contact by telephone and ICT was more frequent with most older people communicating at least weekly with relatives. Unexpectedly, older people communicated more frequently with the relatives and children they saw most often. This finding warranted further exploration in the interview data.

Patterns of community involvement were broad, and independent of most demographic variables such as age, gender and size of town indicating that older people liked to be socially connected no matter where they lived. Of significance was the health status of an older person; that is, those in poorer health were found to have less contact with friends compared to those in good health. While the quantitative data revealed that health status had no impact on attendance at religious services and events or social activities, it was not possible from this data to see if the types of social activities with friends had altered with the onset of poorer health. Of note, regular patterns of communication by telephone or ICT with family and friends were independent of health status. However, given the level of usual social activity and face-to-face contact by people in the *wider community focused* support network, these data trends suggested that older people in this network type may be somewhat vulnerable to social isolation with the onset of ill health and disability.

The key trends found in the Australian data set that appeared to be consistent with the Wenger characteristics so far included: a high level of contact with friends and neighbours; active relationships with distant relatives and children; and a general involvement in social activities. Some of the characteristics that remained unclear and required further exploration included the following:

1. What differences existed between friends and neighbours, and whether a distinction between them was maintained;
2. What types of social and community activities older people were involved in, and whether these included participation in voluntary and service organisations;
3. Whether there was evidence of this network type being a middle-class, or a skilled working-class adaptation; and
4. What levels of retirement migration specifically existed for older people embedded in this network type given there were high levels of retirement migration across the study sample and the broader East Gippsland region.

Exploring the lived experience

The qualitative data collected from older people in this network type comprises the lived experience. This data enabled greater visibility of people's day-to-day lives, enabling further exploration of the key Wenger characteristics of the *wider community focused* network. The study's thematic analysis has provided the framework for the way the data is presented.

In this East Gippsland sample, the *wider community focused* network comprised 147 people. A total of 91 valid comments (averaging 54 words) were provided via the research questionnaires and eleven older people were interviewed. The key demographics of the people interviewed can be found in Table 5.6.

Table 5.6: Key demographic data for interviewees in the *wider community focused* network

Interviewee *pseudonym*	**Age**	**Study community**	**Length of residency**	**Living arrangements**	**Marital status**	**Health status**
Jack	67	Bairnsdale	25 years +	Spouse	Married	Good
Peter	67	Kalimna	< 25 years*	Alone	Not married	Good
Frank	67	Kalimna	< 25 years*	Spouse	Married	Good
Betty	69	Bairnsdale	25 years +	Partner	Not married	Good
Shirley	71	Paynesville	< 25 years	Spouse	Married	Good
Sandra	73	Bairnsdale	< 25 years*	Spouse	Married	Good
Stephen	74	Paynesville	< 25 years*	Spouse	Married	Poor
Jennifer	75	Paynesville	25 years +	Spouse	Married	Good
Walter	77	Paynesville	25 years +	Alone	Widowed	Bit up/down
Irene	82	Paynesville	< 25 years*	Alone	Not married	Good
Keith	82	Fernbank	25 years +	Spouse	Married	Good

* *Lived in current place of residence less than 10 years*

Key findings from older people's lived experiences are presented through the three main themes of the thematic analysis: Supportive Relationships; Neighbourhoods and Community engagement; and Accessibility.

Supportive relationships

Introduction

One of the important themes in this study related to the role of supportive relationships and who shared supportive relationships (or not) with older people. These relationships included giving or receiving one or more of the following: physical help, emotional support, affection and intimacy, companionship, friendship, filial duty or moral obligation. Relationships with spouses/partners, adult children and other relatives, friends and neighbours were included in this study. Supportive relationships with adult children, grandchildren and other relatives are presented within the subtheme of *families*. Experiences of supportive relationships with both *friends* and *neighbours* are presented in separate subthemes. Supportive relationships of an intimate and personal nature are explored under *intimate relationships*.

Intimate relationships

Supportive intimate relationships included the roles of spouses and partners, as well as the loss of these types of relationships for those who were widowed. Some older people in this network type had re-partnered following widowhood.

In this network type, intimate partners were often part of the same social circle of friends and enjoyed socialising with others as a couple. As couples, it was common for older people to meet with friends for dinner, either in local restaurants or at each other's homes, and to spend time together in various activities. Older couples were sometimes found to be involved in the same social groups such as Probus, or volunteering in the same service organisation, e.g., the local Lions Club.

Intimate relationships were shown to be particularly helpful for older people living with physical or mental illnesses. Across this network type, a number of older people were caring for a terminally ill spouse or were themselves terminally ill. Spouses were found to provide emotional support, physical help and importantly, helped people to stay connected to their friends and communities. Older people who were widowed often provided references to deceased spouses, but were generally connected to social activities and busy with friends, especially those living in retirement villages. While many people were found to be happy on

their own, within a circle of friends, there was evidence of some older men re-partnering following widowhood.

> *I became a widower in <year>. I played Bowls once a week at that time and continued for a few years until physical problems caused me to quit. I became a member of a <named> social group meeting for lunch once a month and after 2 years made a close friendship with a lady who was widowed in <year>. We've had holidays together and enjoy working in our gardens together. I am well accepted by her family and she is by mine. I took up a volunteer job... and I play social table tennis twice a week. I have some body parts wearing out, but am able to cope. I mow my lawns and properly maintain my home. I usually prepare a main meal daily for my friend who normally lunches with me (she has a strong stomach). I have <number> children scattered about with their families and lifestyles. All are well balanced and good parents.* (Male respondent #388, aged 86 years)

For older widowed women, changes following the loss of a husband/male partner included the need to develop new sources of help with household maintenance, and as shown later in this chapter, there was generally both increased support from children (when they visited), and help from friends and neighbours following widowhood. However, it was also found that older people living alone often preferred to pay for services.

In summary, older married people generally enjoyed a variety of shared social activities and shared friendships as a couple. There was also evidence of personal care support from spouses and partners in times of illness. For those widowed or not married, regular social activity brought them into contact with others. In a few cases, this had enabled opportunities to develop new intimate relationships following widowhood.

Family

This sub-theme relates to the roles of adult children, siblings, other relatives, intergenerational relationships with grandchildren, and for people who were not parents, their experiences of support with other relatives including nieces and nephews.

Older children and other relatives usually lived at distance, with Melbourne, the capital city of Victoria a commonly visited location approximately 300km away. Other locations included variously; Victorian communities, interstate destinations as far away as Darwin, or in some cases, other countries such as New Zealand, Thailand or the United Kingdom. Some

adult children were also found living locally because they were in business with an older parent (for example, farming the land), or they were accepting support from their older parents. The two most typical reasons for older parents supporting adult children related to adult children looking for time-limited accommodation, or adult children that needed some form of assistance in everyday life. As Betty (9:12) explained:

> *I do things, um yeah, sometimes it's touch base emotional but sometimes it's just practical you know like picking up <granddaughter> from school or taking her to <sport activity> if that helps out or when they were moving house, I did a lot of cooking and made-up meals for them to have in their freezer so they could focus on shifting (smiles). Sometimes they need some financial support, you know, because he can't work, so um, all those sorts of things.*

Retirement migration patterns away from family were evident in the many stories and comments shared as part of this research study. However, despite moving away for lifestyle reasons, relationships with children were commonly described as *strong* and *caring*. Regular weekly phone calls were common and some participants were regular Facebook users. For older people with families living overseas, telephone calls, emails and video calls (Skype) were used to keep in touch with both adult children and grandchildren. This data tended to support the characteristic identified by Wenger that relationships with relatives and children were *active* relationships, and living at distance did not mean people were choosing to leave their relationships with family behind when they moved away.

Face-to-face visits were also considered important to many older people. Visits with adult children sometimes involved household maintenance and gardening jobs, but often visits were found to be purely social, and due to distances apart, were usually for days at a time. In many cases, visits were linked to school holidays, when children and grandchildren were freed from school and work commitments, and thus able to visit. There was evidence that some support was available from families, and increasingly available as parents got older. However, many older participants communicated their preference to remain independent, and did not wish to have too much assistance from children.

> *Living in a rural community offers me friendship when I need company; safety to walk alone along our beautiful lakes and forests; peace and tranquillity when I choose; stimulation and conversation at U3A; drama, music and film at*

> *local venues and being part of a community where I am greeted with a smile and business people know my name. The negative side is isolation from family who are spread from* <other side of Victoria to interstate>. *My family are supportive if I am unwell, they rally to help me - but I feel it is a burden for them to travel. I have been widowed for 2 years and feel confident and capable living on my own. However, the time approaches when I should consider selling my home and moving closer to <location> and family. But while I am independent, I shall stay put.* (Female respondent #249, aged 80 years)

Siblings were also considered to be important relationships for many older people, although contact frequency varied. Older people generally lived at distance from siblings as well as children, so contact was usually a combination of regular telephone calls and ICT, as well as face-to-face contact. Visits were usually monthly or less often if people lived further away than a two-to-three-hour drive. There was also evidence of emotional support shared between older people and their siblings, with sisters often described as confidants. One particular sibling was often identified as special to the older person. In some cases, sibling relationships appeared to be akin to friendships, particularly where there were clear patterns of migration to move closer to siblings or where siblings had moved to be closer to the older person. In these cases, siblings were often close in age to the older person, were usually married or partnered (coupled), and were involved socially with older people, sometimes becoming part of the same social circle of friends. For a small group of older people, more often men than women, there was estrangement from siblings or they had lost siblings earlier in life. Peer-age cousins were also important relationships for older people without living siblings, especially for older widowed women living alone. ICT was identified as an important way of keeping connected with extended relatives and cousins, particularly by email and Facebook.

Finally, grandchildren were a source of enjoyment for many older people although living at distance meant that older people were not deeply involved in the raising of grandchildren. In fact, many older people were comfortable in sharing their views that retirement and growing older was a time for social and community activities not for raising children.

In summary, older people generally lived at distance from their relatives, but older people and their children were in touch regularly, arranged visits to see each other face-to-face, and broadly considered their relationships to be strong and caring. Relationships with children and grandchildren were generally relationships of mutual enjoyment and shared experiences

of life. There was no evidence of older people being the recipients of filial duty or moral obligation. There was clear evidence of adult children travelling to provide sporadic assistance in times of illness, and some indications that they were willing to provide more assistance as it was required. Some older people spoke about moving back closer to children with the onset of poor health or disability, or following changes in their neighbourhood.

Siblings, especially sisters, were considered to be important relationships, and efforts were made to maintain face-to-face contact in much the same way as visits with children, supporting the idea that face-to-face contact for maintaining active relationships was important, and that telephone calls and ICT were supplementary ways to maintain contact between visits. Sisters were also found to be an important source of emotional support, and it was common to find sisters as confidants. There was considerable evidence to support that relationships with relatives in the Australian *wider community focused* network type were characteristic of Wenger's description of *active relationships*. There was also substantial evidence of retirement migration patterns in this cohort. For some older people, siblings living in close proximity had often migrated to live close to each other and were sometimes found to be part of the same social circle of peer-age friends. Peer-age cousins were also found to be important relationships for older people without living siblings.

Friends

One of the primary themes across this network was the strong pattern of friendship in everyday life. This section presents the findings on the supportive role of friends, and what support looks like, and what it doesn't look like.

Local friends were a constant in the lives of older *wider community focused* people. As shown earlier in this chapter, many older people saw friends regularly and frequently with nearly one fifth of this large cohort of people seeing their friends every day. Morning coffee groups, walking groups, art and craft groups as well as outdoor activities such as sailing and fishing were common. Many older people were volunteers in the same service organisations, and older people described being part of groups as an important way of meeting new people and making new friends. In fact, meeting new people and making new friends was a common motivation in life for people embedded in this network type. There was also supporting evidence that people aged from 65 years to 74 years used ICT with friends more frequently than older people aged 75 years and older, with texting a common mechanism to arrange social activities. Many older people shared their initial scepticism about the use of mobile

phones, which many had previously carried for emergencies only. Over time most older people had adopted ICT as a normal part of communication. While many people still used emails for sharing information with family and friends, sharing photos was another common activity, and much easier to do with mobile phone technology.

Of note, friendships were generally focused around social and group activities; that is, friendships were not commonly described as one-to-one interactions. That may be why two other common trends were observed. Firstly, older people in this network group did not spend much time helping each other out with household tasks - these were usually sourced as paid services. Time with friends was generally described as social time, time to do things together which may have involved helping other people out through volunteer organisations, but involved the companionship and enjoyment of spending time with others. This trend may also help to explain why in times of poorer health (and in support of the quantitative findings when face-to-face contact with friends often reduced with poorer health) some local friends who were expected to offer support instead slowly eased themselves out of contact over time. There did seem to be different patterns of support for older people caring for a spouse or partner with mental illness as opposed to those with a physical or well-known condition like cancer: that is, mental illnesses were generally more isolating for older people, both for those with a mental illness, and for their spouse/partner. No older people with a known cognitive decline were interviewed as per the ethical parameters of this study. However, a number of participating older people were caring for a spouse or partner with a mental illness or mental condition. It was common for friendship contact to have lessened over time for both parties as the couple were no longer able to maintain the same levels of social activity.

However, the second key trend was that older people in this network type were also generally good at sourcing alternative activities to maintain social connections and activities, and to find the help they needed from professional service organisations.

> *Until 2 years ago, my husband and I led a very busy life as active members of Australian Volunteer Coast Guard. When my husband's health began to fail and he was diagnosed with <mental illness> we had to wind back and become non-active although still members of the Coast Guard. We now find our activities are with Probus, a group for support of carers and people with disabilities and friends.* (Jennifer, #481)

It can be seen that one of the advantages to having a wide network of local friends was the ability to share information about services, and access to services, noting that many of these older people were well connected with local service organisations or were members of them.

It was clear from the qualitative data that friendships were grounded in shared activities, with many people having local friends that were fairly new friendships (developed after migration to the area), and were not life-long friendships with shared histories. However, due to the fact many people recognised that they had all moved away from families and life-long friends to enjoy a retired rural lifestyle, many local friends did support each other during time of illness and enabled people to continue living in their homes.

> *Son lives <overseas>. I suffer from cancer and have had extensive treatment / surgery. Our son has flown out to support us but we are very dependent on local friends and neighbours for on-going support. We are very fortunate to have people nearby who care about us. We are both involved in clubs that have been very supportive.* (Male respondent #379, aged 68 years)

It appeared to be that when the level of reciprocation became less clear, then levels of support could be become more variable. However, it was also evident that people in this network had multiple avenues for support from friends, and the ability to source information through that friendship network when it was needed.

In summary, older people in this network had access to multiple social friendships that provided companionship and enjoyment. People in good health wanted to spend time with friends in social and community activities. Older people felt they were able to ask friends for assistance but generally chose not to unless they, or their spouse/partner, became unwell (for example, a cancer diagnosis), then help was accepted. Friendships were focused on social activities and helping others (volunteering), not for assisting each other with household tasks that could be sourced through paid services. Older people in this network type were also able to gain access to information through friends, particularly through friends volunteering in service organisations.

Neighbours

Neighbours were described as people who lived next door to older people, or for people living on larger properties, neighbours were sometimes more distantly located but were the closest people available. Of particular interest in this study was the role of supportive

neighbours, what tasks they were comfortable to do, and what social boundaries existed between older people and their neighbours.

One common theme for older people embedded in *wider community focused* networks was that the friendliness of neighbours made older people feel a sense of safety and belonging within their communities and homes. This was particularly important for older people adjusting to life in a new community. Friendly neighbours were especially valued by older people who lived on their own or were more housebound, as their proximity made them more accessible. There was evidence that neighbours were willing to help each other, and the example provided below shows that neighbourly support may not be confined to a single episode of help, but rather may be a series of supportive actions, perhaps becoming a supportive relationship over time. This was an important finding because of its implications for service provision; that is, for some older people neighbours may be a source of *regular* support.

> *It was very lonely when I first moved here. The neighbours had lived here for a long time. They gave me help when needed. Especially on the computer. I am still very wary of this equipment. I prefer the 20th century. The 21st is far too technical for me. I do not like mobile phones, but I have one for use in emergencies. Deafness, failing eyesight, not good at my age. I gave up driving approximately 2 years ago. Scooter's my best way of transport – bus – taxi*. (Female respondent #121, aged 84 years).

This example also suggested that neighbourly contact had contributed in some way to reducing levels of loneliness for that particular participant. Whether that was in providing her with information about the area, helping her to connect with others or simply providing some companionship or support themselves, was not clear. Certainly, many older people alluded to neighbours, due to their proximity, being available for spontaneous conversations. Many older people spoke about the ritual of catching up with neighbours when it was time to put out or bring in the rubbish bins. Furthermore, bringing in a neighbour’s bin is a common reciprocal activity in Australian communities, irrespective of age. In interviews with older people, there was a strong sense of community duty in looking after your neighbours as well as a general sense that good neighbours were people that looked out for each other. In areas with greater numbers of people in retirement, older people were found to be looking out for each other. There were many examples of this behaviour across this network type.

> *Currently living with two lovable small dogs. Without them I think I would feel lonesome. An elderly gent lives next door. We unofficially keep check on each other e.g. observe curtains and blinds are opened each day. He wheels my garbage bins to my front gate and throws over the newspaper. His dog talks to my dogs.* (Female respondent #137, aged 67 years)

Finally, of importance to this research was the evidence that the boundaries with neighbours were generally maintained; that is, they were not considered friends but rather they were neighbours. The role of neighbours was considered to be a particular role and for many people this role was viewed as supportive if neighbours were 'good' neighbours.

> *I have always felt safe in the Orbost community. People look out for one another. My next door neighbours and I don't do things together or chat all the time but we are in contact and I know if I am stuck e.g. with bins they will help me out…* (Female respondent #374, aged 83 years)

This was an important finding because at first glance, the qualitative data showed a number of older people referring to neighbours as friends. However, in looking more closely at the separation of sub themes across this research, it was clear to see that for older people with friends that were also neighbours, they were considered friends that happened to live next door. They were not considered to be neighbours anymore, thereby maintaining the distinction between these two different roles.

In summary, contact with neighbours was frequent and friendly, but boundaries were maintained: that is neighbours were not friends. Friends were friends whether they happened to live in proximity or not. There also appeared to be a general understanding across this network type that neighbours were important social relationships to have or cultivate, because they contributed to people's sense of belonging and safety within their communities. There was also a strong sense of community responsibility regarding neighbours, and that 'good' neighbours looked out for each other.

Conclusion about supportive relationships

Older people across this network were embedded in a network with multiple network ties, with local friendships important for maintaining everyday lifestyles. Supportive relationships with friends ranged from friendship to active physical support in times of need. There was some suggestion that reciprocal support with friends was important, depending on the support

required, but for most people, friends were in similar situations to themselves, and were supportive of each other in times of need. This pattern of behaviour became clearer when a participant, or their spouse/partner, became unwell or developed a terminal illness.

Neighbours were also an important source of support for older people, with neighbourly behaviour determining how safe and secure people felt living in their homes and neighbourhoods. For older people living alone, neighbours provided sources of support for conversation and connection as well as more physical tasks at times. Support from neighbours for some people was a regular commitment that was valued by the older recipient of that support. Elderly neighbours often looked out for each other and there was a strong sense of duty about caring for neighbours.

Finally, children and other relatives were an important part of *wider community focused* people's lives but they commonly lived at distance from older people, and contact was primarily through telephone and ICT contact. Nevertheless, relationships were generally considered to be strong and caring, and older people and their families made efforts to visit each other. For older people with school aged grandchildren this often occurred during school holidays with visits usually for many days at a time, rather than a pop in and out style visiting more common with locally based children. Siblings were also an important connection for many older people, with one particular sibling usually having the strongest relationship, and sisters often identified as confidants. The key characteristics as described by Wenger about this network type were found to be consistent with the findings in the East Gippsland rural cohort. In particular, this network comprises older people with active relationships with their children and other relatives, despite living at distance from them. They also had a large number of network ties, primarily due to the motivation to meet and make new friends from social and community activities. Neighbours were generally known and considered to be part of the supportive network surrounding most *wider community focused* older people, noting that a distinction between neighbours and friends was maintained.

Neighbourhoods and community engagement

Introduction

This theme was focused on older people's experiences of community, their sense of belonging, levels of participation in local events and social activities, work, volunteering and migration patterns in and out of community.

Neighbourhoods and community engagement

One of the first key trends from the qualitative data was the conclusive evidence of retirement migration to East Gippsland communities. Retirement migration away from families was clearly communicated by older people in their stories and comments about life in older age. Common reasons for movement in retirement were: finding a place to live with good outdoor activities available (for example, bush walking and fishing); finding more manageable accommodation (for example, smaller and/or newer homes requiring less household maintenance); moving back to places that were childhood holiday destinations with good local facilities and rural/coastal surroundings; finding a place that felt safer (for example, less traffic, less crime and becoming known within the community); moving closer to a particular sibling (for example, a brother or sister who had migrated at an earlier time); or moving to more sociable communities, including retirement villages, where there were greater opportunities to participate in community groups and make new friends.

> *Having lived in < outer Melbourne suburb> for 25 years on 20 acres, we decided to move to Paynesville Victoria some 4 hours away as the workload and age was relevant for a change (my wife had been coming here since childhood and her brother, sister-in-law and son moved here about 5 years ago). Rural life has a lot to offer with boating, fishing, sport, music for the people, horseracing, Forge Creek theatre productions, closeness to other rural towns for sightseeing, shopping restaurants, hotels, motels etc. We also have many friendships that have been and I meet each morning early with 6-10 ex businessmen from various walks of life and have coffees and discuss local issues and some world problems!! This lasts for 1 – 1.5 hours average and lots of communication and laughs. These guys and wives also meet periodically for BBQs, dinners at a restaurant, and home dinners. Afterwards everyone does their own thing at home.* (Male respondent #68, aged 76 years)

Many people commented specifically that East Gippsland was a great area to retire to because it was known as a retirement area, and had a combination of good local facilities, shops, restaurants, cafes, recreational venues as well as good medical facilities in the regional centre of Bairnsdale. Due to the number of people retiring into the area, a number of communities like Paynesville were also viewed as friendly and welcoming places to live with like-minded people involved in social and community endeavours. As shown earlier, neighbours were also important in helping to make people feel at home in safe and friendly neighbourhoods.

> *East Gippsland is idyllic for retired and elderly people. There are great provisions for medical and aged care facilities should you need it. People are interactive and caring. The climate is great and we have access to beautiful beaches, bush and parks and gardens. Walking is great and I belong to a step aerobics class twice a week.* (Female respondent #236, aged 70 years)

It was also clear that older people in this network type generally participated enthusiastically in both service and community organisations as volunteers. The organisations commonly mentioned were Rotary Club, Lions Club, APEX (supporting youth in communities), the CFA (Country Fire Authority), the Country Women's Association, the Australian Red Cross LifeBlood, Meals on Wheels (and other aged care services) or the local Landcare Group. There were also Probus Clubs, Men's Sheds, and other organisations and groups with a focus on activities for older people, as well as activities for purely social and recreational enjoyment. In fact, the list of different recreational activities was enormous and included: sports such as golf, table tennis, croquet and bowls; creative arts such as music, film, theatre, dancing, and singing (in choirs); outdoor activities such as boating, sailing, fishing, four-wheel driving, bike-riding, bushwalking, and swimming (at the beach or lakes); exercise classes such as step aerobics or Tai Chi; or attending other activities through the University of the Third Age (U3A) such as playing Mah-jong or being part of a Writers Group. There were also lots of people participating in walking groups combined with morning coffee conversations, going out for meals with friends at local cafes, restaurants, and pubs, and enjoying the local area by morning or afternoon drives, touring and sightseeing.

While some of the groups and organised activities were not as readily available in the smaller more rural East Gippsland communities, there was nevertheless further supporting evidence of the importance of connection to community.

> *Since moving to Ensay I have enjoyed a level of acceptance and support that far surpasses that experienced in my previous locality. It's a great place to live.* (Female respondent #496, aged 70 years)

Of note, a significant characteristic in this network was that older people were able to afford to be members of clubs and social groups and be involved in reasonably expensive activities as such as sailing yachts or driving four-wheel drive vehicles. While there was conclusive evidence of older people volunteering and participating in service organisations, there was also evidence of wide-spread financial security, and therefore evidence that this network

could be considered to be a middle-class and skilled working-class adaptation. That is, older people in this network had enough financial security to be able to have choices about their lifestyles and hobbies.

One of the challenges of rural living was the variability in basic infrastructure and facilities that existed across communities. For some of the smaller more isolated towns and communities, access to basic ICT services including mobile phone reception was sometimes difficult and unable to be easily resolved. Older people in this network, mainly living in the larger towns of East Gippsland did not mention this problem often but for some of the older people living in the smallest communities this was found to be an issue.

> *Very few people in this area use computers and there is limited mobile coverage for standard services. I am lucky to have access to D.O.T technology and good data. Remote towns are often overlooked in these regards*
> (Female respondent #366, aged 67 years)

For older people who were living on the land, there were different challenges in staying connected within their community. In particular, a lack of recognition of the importance of the types of activities and venues that were important for them socially was raised. The local cattle saleyards were considered an important venue to promote farming social life and to help older farmers stay connected with friends or farmers living in the district, albeit, as one older farmer pointed out, they are not generally viewed as an important social venue worthy of funding and support from the local community:

> *… the saleyards is where farmers gather to sell stock, to buy stock, and to catch up and have a yarn, you know. Just recently they closed the Geelong saleyards and there was a big fuss about the Geelong saleyards being a focal point in the Geelong district for small farmers as much as bigger farmers, and the social aspect of it, and I think this is a really important thing that hasn't been looked at properly by local government and state government.*
> Keith (1:41)

Finally, changes in neighbourhoods were also found to have an impact on older people in this network type in addition to changes in personal circumstances, such as becoming widowed or experiencing declines in health. Older people living on the land usually required family support to remain ageing in place. For some people there were indications that they were prepared to relocate to other communities again to accommodate neighbourhood changes,

which usually involved plans to move back closer to children and grandchildren for additional support. A number of older people communicated that it was difficult to decide when it was the right time to make this change with housing markets, availability of working children and finances all part of the decision-making process.

> *We have been very involved with our neighbourhood during the past ten years but we are now facing a huge change. Some of our neighbours have died, others have moved interstate and in the next few months another three houses in our street will be going on the market. We live in a rural area and until recently had regular street get togethers and dinner parties. We are not serviced by public transport. The nearest shops are a fifteen minute drive away. As more neighbours die, move away or go into care locally we are having to think seriously about selling our home and moving closer to one of our two daughters.* (Female respondent #148, 77 years)

For others, they were already living in retirement communities, and felt confident that additional services would help them to remain close to their communities and friends, i.e., they wanted to remain ageing in place.

Being alone

This sub-theme explored older people levels of emotional self-sufficiency; the types of home-based activities enjoyed as well as older people's experiences of loneliness (if they existed).

While everyone spent some time alone, older people in this network type did not generally talk much about what they did when they were alone, i.e., being alone was not a strong sub-theme for this cohort of older people. Some older people who lived in the smallest communities communicated that they sought the peace of getting away from larger communities of people to spend time enjoying nature. For the few people that mentioned home based activities they generally included gardening, cooking, creative arts and reading.

> *Growing older in rural community has many advantages, quieter, clean air, connectedness to what ever degree u wish to partake in. There are semi-hermits here to very vocal busy people. … I read and garden a lot, craft CWA (etc), when I'm peopled out I retire behind my fence and don't answer my phone. The village works well as much volunteering is done and people look out for each other. My neighbour said once if up u don't draw your curtains*

back in AM, would come and check up on u!!

(Non-binary respondent #369, aged 71 years)

In summary, this was not a sub-theme generally raised by this group of people. There was evidence that with deteriorating health spending time alone became more necessary, and issues of social isolation and loneliness, while not raised explicitly, appeared to be more likely for people no longer able to participate fully in social and community activities.

Conclusion about neighbourhoods and community engagement

Social activities and community involvement were a central part of people's lives, and this pattern of interaction continued well into older age, unless deteriorating health impacted on an individual's ability to be involved and participate with enjoyment. Even then there was considerable effort to recalibrate activities to fit people's circumstances, with a move towards more gentle activities, noting organisations like Probus were designed to be inclusive of both frail and disabled older people. People did not commonly spend a lot of time alone by choice, and there was evidence that social isolation for this group of people created loneliness. Mental illnesses and mental health conditions were shown to be more isolating for both individuals and their partners compared to physical illnesses such as cancer, and there was evidence that both government and paid services were being used.

Older *wider community focused* people often lived in the larger communities of East Gippsland, close to a range of social and community activities however, it was also clear that similar community engagement patterns existed for older people in this network type who lived in the smaller communities. Basic community infrastructure, such as local facilities and ICT connectivity, were shown to impact on people's ability to participate and stay connected with children and relatives living at distance, but it was noted that some *wider community focused* older people chose to live away from family and relatives in the isolation of smaller rural communities. Some of the common things people were looking for in retirement migration to rural communities included feeling safe and a having a sense of belonging, becoming known within the community (often by name in the mid-sized and smaller communities), and getting involved in many of the organisations and activities that helped to maintain the core fabric of the community.

Accessibility

Introduction

One of the key themes that came out of this study related to access to services and community activities. There were a number of factors identified that impacted access, including:

- the availability of services;
- having the skills to find services and coordinate them if required;
- having the financial security to be able to purchase services;
- motor vehicle driving or the availability of public or community transport;
- being able to manage chronic disease at home; and
- access to medical and specialist care as well as the financial security (including access to health insurance) to be able to access that care if needed.

Therefore, the presentation of qualitative data in this section uses three key sub-themes: paying for support, including preferences for paid services and types of paid services commonly accessed; older people's experience of motor vehicle driving or not driving; and finally, access to medical services, including access to both general practitioners (GPs) and specialist care.

Paying for support

This sub-theme related to access and preferences around paying for services and care.

Older people generally lived away from their relatives, and while some people had access to sporadic family support with household maintenance and gardening tasks, with these jobs often saved up for visits, the majority preferred to pay for these types of services. There was also consensus amongst this group of older people that there was a large range of services available. Knowing where to access services was important, but many of the participants indicated that they were capable of finding the services they needed. A number of older women spoke about accessing services that were now beyond their abilities, especially for women who lived alone, or women who lived alone following widowhood. However, there was also the importance of maintaining independence and not having to rely on others to get things done. Even with disabilities or physical limitations, older people preferred to make their own choices about what they could do, and what services they preferred to pay for.

As Walter (21:02) explained:

> *Not much maintenance needed on the house, just an odd tap or two, that's all. Pay someone to do all the lawn mowing and I can still dig with one hand. I am fiercely independent. If I need a service, I work it out and pay for it.*

There were also a number of older people who indicated that they had local friends that were willing to help, but they were either physically unable to provide assistance or there was a preference to spend time socially with them. A number of older men indicated that if they needed a 'tradie job' done then they preferred to pay for it. For people living on the land, older people had access to support from neighbours if they needed it, although again professional trades people were simply required for some jobs. As Jack (35:40) explained:

> *… If I couldn't do it, then I'd rather just pay someone to do it. So, it's sort of, if it's just a little something that you want to do but it's not worth get a tradie in or whatever it is, then you call your mates. But if it's got to the point that is bigger and you think, oh geez I don't want to tie me mates up for three or four days or something, then you'd just, I'd just pay someone. It's not fair, I mean they'd do it, but that's not the point.*

There was no evidence gained from this group of older people that they were paying for access to community or personal services such as social companions, or any other support to enjoy a full life. While this study did not seek to explore people's financial circumstances, a number of older people volunteered information about their financial circumstances, and the priorities they had in paying for services. There was considerable evidence that older people in *wider community focused* networks could afford pay for the things they wanted, giving them the flexibility to action services around social activities and community commitments.

In summary, there were strong preferences across this cohort of older people to arrange, source and pay for any household maintenance and gardening services needed. There was also broad recognition that peer-aged friends and neighbours while willing, were often unable to provide assistance with some things that required physical strength (as they themselves were older) or technical skills, and it was easier to engage with professional trades services. There was also the convenience of arranging paid services around social and community engagements.

Motor vehicle driving

This sub-theme related to driving independence and/or reliance on others for transport. It also covered key aspects about people's experiences of public and community transport (where it existed).

There was broad acknowledgement that sometimes driving was no longer possible. However, the level of acceptance around giving up a driver's licence varied, with some people reasonably comfortable with it, citing other options available to them, while others were deeply concerned about the loss of their independence and what it would mean for their participation in social and everyday activities. Understandably, there were differences for people living in the larger towns or the regional centre of Bairnsdale where there was greater access to public transport and private taxi services, compared to people living in smaller more isolated areas, or for those living on the land outside towns.

While taxis were used by some participants, many said that they found them to be too expensive. There was evidence of people providing private transport to friends and others across the community to connect them with social activities and general everyday tasks like shopping.

> *... Currently I have no permanent neighbours but that is no problem as I have a group of friends from my church (Anglican) who I share monthly meals with and weekly coffee shop visits. I volunteer to drive another church lady into Bairnsdale (16 kms away) every second week so she can shop and we enjoy a cafe meal together...* (Female respondent #73, aged 80 years)

In some areas there were also regular bus services connecting people with the regional centre of Bairnsdale. Although, a number of participants also noted the lack of community transport across East Gippsland communities. One participant proposed a new service such as a community bus to pick up and take older farmers into the pub on a Friday or help them to get to the saleyards on a Thursday. Another suggestion included a service to pick older people up to go shopping.

> *... Lack of public transport is something of a problem. If one is unable to drive, taxis or friends giving lifts are the only means of transport. A small minibus would be ideal for shopping. Some time ago I approached the Council about*

this, they said it was too difficult because of the insurance involved and I suspect, fear of litigation. (Female respondent #357, aged 83 years)

Understandably, there was a contrast between the cohort that had ceased driving - and had learned to accommodate new transport options - and the cohort that were still driving, and had not considered life without driving independence. People aged 75 years and over were more likely to have considered life without a driver's licence and while there was some difference in the levels of optimism being expressed, access to transport by friends or public transport were important factors in this level of optimism.

I have a caring family who keep in touch and I drive to <town> to stay with my daughter for weekends when it suits us, with her I also have visits to Melbourne to catch up with grandchildren and great grandies. I also drive up over the mountains to <community> to visit my son staying for 1 to 2 weeks at a time. I will be severely limited when I can no longer drive but there is a very good bus service into Bairnsdale daily. Life is good in Paynesville. (Female respondent #73, aged 80 years)

For people living in towns, there were also options to walk or use a motorised scooter to gain access to local shops. This diminished reliance on a car, and therefore minimised a lot of anxiety about losing a driver's licence. People who were early retirees (aged between 65 years and 70 years), and involved in car related hobbies, or those who enjoyed travel and touring with their cars & caravans, were understandably the most anxious about the prospect of loss of driving independence.

Finally, many of the participants spoke about the public train service to Melbourne. This was used by many older people for travelling to and from Melbourne for medical appointments, to see friends and families living at distance, or to access the arts and theatre. Opinions on the train service to Melbourne varied from very good through to poor. The variation in opinion related to whether three services a day were enough or at the most convenient times.

In summary, access to services and social activities was important, and for people living on the land and outside of towns, driving independence was very important. Due to the lack of public transport including community transport in the smaller more isolated rural communities, many older people faced the prospect of having to move to a new home when they could no longer drive. While friends often helped with transport to keep people connected to social and community activities (including religious services and events), there

was still more anxiety rather than acceptance regarding the loss of driving independence in this cohort of older people.

Access to Medical Care

Not surprisingly, one of the common subthemes in this research regarding access to services related to medical care. This section presents findings about older people's experiences of access to medical care, how far people had to travel to access medical care and the implications of access to medical care on their ability to manage chronic illnesses at home.

The most common challenge identified by nearly every older person in this cohort related to getting timely access to a local GP, and particularly getting access to the GP of choice. The inability to see the same person regularly, and have continuity of care, was found to be particularly frustrating. While there was some acceptance about the challenges of attracting rural GPs to the area, nonetheless, there were also expectations around having choice and being able to find someone one felt comfortable with, noting that some of the medical problems older people were experiencing were complex and benefitted from having continuity of care with one practitioner. Of note, in some of the mid-sized and smaller communities older people indicated they had better experiences in securing the services of a GP, although they also acknowledged they were mostly in good health and did not require a consultation very often.

Many older people also spoke about the challenges of accessing medical specialists, noting that more specialists were offering clinics through the Bairnsdale hospital, saving people trips to Melbourne. Some older people had benefitted from new services such as telehealth appointments in recent years, again saving people long drives or train trips to Melbourne. However, for many people travelling on the train to Melbourne to access a full range of medical specialists was acceptable, as they rationalised that it was their choice to live rurally and be at distance from this sort of medical care. Broad views about access to hospital care were also along the same lines and the variability in opinions depended on expectations and preferences.

> *Orbost Regional Health staff and volunteers are a caring team however funds are needed to expand their services to help keep older people at home. These services need to cover weekends/holidays and more gardeners and handymen. The doctors have a large area to cover as well as Aboriginal health which takes them out of their Orbost consulting rooms at least once*

per week. Couple that with time away for updating or obtaining higher degrees there is a continuing and irritating non presence of the G.P. of choice. We need more permanent G.P.s and better diagnostic G.Ps. Orbost Regional Health supply a vehicle and driver for clients needing to access specialist appointment from here to Melbourne. Not everyone can be accommodated comfortably timewise as late appointment clients have to go with early appointment clients so waiting around while not feeling well can be uncomfortable. Not sure how to overcome this. Transport to other towns can be a problem for those who don't drive although for Marlo and Orbost it is better than it was 4 years ago. After a concerted push by locals to have v-line extend their service from Bairnsdale. Nonetheless some people have difficulty in accessing the steps into the coach and those in wheelchairs have no access at all. (Female respondent #25, aged 81 years)

Of note, older people in this network type were not restricted from access to services due to their financial circumstances. There was little in the way of conversations or comments that related to an inability to access services due to a lack of financial means. While it is acknowledged that the majority of people in the network were in good health, a number of them indicated that they had health insurance, or government benefits appropriate to particular health issues relevant to them. Importantly, people in this network were shown to have access to information about services and how to access them from their wide range of social contacts.

In summary, access to medical care was important and contributed to people's choice of location in retirement migration and their experiences of later life. While there was a broad consensus that services were available, there was variation in people's experiences regarding access to GPs and medical specialists which related to both expectations and personal circumstances. There was no evidence of reduced access to medical services due to a lack of financial means, and there was evidence that people in this network type had access to a range of medical specialists through private health insurance membership, that is, they were not fully reliant on service availability through the public health system.

Conclusion to Accessibility

Maintaining independence was considered important and being able to choose services was part of that independence. Older people in this network often had access to information about

the types of services available, and the means to secure paid services if required. There were strong preferences to pay for services by skilled tradespeople where available, rather than a reliance on family, friends or neighbours. Access to public transport was variable and declined the further away from the regional centre of Bairnsdale you lived. Access to medical care was also inconsistent, particularly access to GP of choice, and there was broad acceptance that access to medical specialist care would require some travel to Melbourne.

Conclusion to the lived experience

Active relationships with families and relatives from a distance was evident. While face-to-face contact was infrequent (usually monthly or less often), communication by telephone and ICT was frequent (at least weekly or more often). There were strong patterns of retirement migration away from families to enjoy peer-age social and community activities in later life, but relationships with children were described as being strong and caring, and there were also active relationships with siblings for many older people (especially with sisters). Due to distance, relatives were only able to provide sporadic support to older people, often for short-term illnesses, but friends and neighbours were generally available to provide more on-going help and support if required, noting that many older people preferred to pay for services where possible and retain their independence.

Summary of wider community focused support network findings

The Australian Wenger *wider community focused* network was very consistent with the key characteristics of the Wenger network, specifically this network comprised older people with strong retirement migration, a high level of contact with friends, and a general involvement in community and voluntary organisations. There was evidence of active relationships with families and relatives as well as neighbours, noting that children and siblings generally lived at distance. There was also evidence that a boundary existed between neighbours and friends; that is, friends that lived next door were considered friends rather than neighbours. However, neighbours were important in making people feel safe and welcome in their communities, and together with local friends and social groups, contributed to a sense of belonging to place.

Older people in this network type also enjoyed their independence, and often preferred to source and pay for any services they needed. They were involved in regular and frequent social and recreational activities with friends, some of which required a level of financial means for participation. Many also commented that migration to another community gave them a chance to choose newer homes requiring less household maintenance. These all

contributed evidence to the Wenger characteristic; that this network type may be considered a middle-class or skilled working-class adaptation.

Most of the people in the Australian Wenger *wider community focused* network were found to be in good health, able to drive, and were actively supportive of peer-age friends and neighbours. Poorer health impacted negatively on the frequency of contact with friends, but not with neighbours or relatives. Neighbours were shown to be supportive of older people, themselves often older, and were particularly helpful for older people living alone who were in poorer health, and unable to get out and about as much as they used to. Neighbours were at times shown to provide regular support for older people, providing social contact and conversation as well as physical assistance with rubbish bins, and some household maintenance tasks including help with ICT.

There were strong retirement migration patterns into East Gippsland communities from Melbourne, from interstate, from other Gippsland areas, and from farms into towns. There was also evidence of the out-migration of children to Melbourne for education initially, and then more permanently for work and subsequent marriage and family commitments. There was also clear evidence that older people continued with social and community activities well into older age by modifying their social and community engagement in line with personal circumstances and preferences. Probus and other organisations specifically designed activity options for older frail or disabled socially minded people. There were high levels of morale, and low levels of loneliness found across this cohort.

The Private Restricted Support Network

Introduction

The characteristics of the *private restricted* support network comprise two sub-sets: independent couples who are usually retirement migrants who are primarily involved with only one another; and older people who have no surviving local ties, or who have withdrawn and become isolated from local contacts (Wenger, 1991, 1994). Older people in this network type often demonstrate a life-long pattern of low levels of social interaction, that is, minimal contact with relatives and neighbours. A complete lack of community involvement in voluntary groups or other activities is also typical for people in this network type.

The *private restricted* support network in the Australian data was found to be the second largest network in the Australian *Wenger Support Network Typology*, (22%, n=82). The key

network characteristics of the Australian *private restricted* support network are presented through both a quantitative data analysis, and a discussion of key themes from the study's thematic analysis. A summary of key findings concludes this section. Please note that all network frequency data and all tests for independence are presented in tables in **Appendices 21 and 22.**

Identifying key network trends

Most of the older people embedded in *private restricted* support networks were found to be living in either one the mid-sized towns of Paynesville or Orbost (41%), or in one of the smaller East Gippsland communities (41%). Only 18% of older people were found to be living in the regional centre of Bairnsdale. Length of residency data showed strong evidence of retirement migration, with three quarters (74%) of all *private restricted* participants having moved communities within the last 25 years. Further analysis revealed that 44% of this cohort had only lived in their current location for ten years or less. There was no difference in the length of residency data in relation to the size of the community (χ^2 (2,80) = 2.309, p = .315), or in relation to age (χ^2 (1,82) = 3.575, p = .0.059), or marital status (χ^2 (1,81) = 0.053, p = .819); noting there were more people aged 65 years to 74 years (68%), and very few people aged 85 years and older (7%) in this network type. Interestingly, more than half of this cohort (54%) were men, and they were generally married (64%). Unsurprisingly, more female respondents were widowed compared to male respondents, but there were more men than women who had never married (χ^2 (2,80) = 6.117, ***p* = .047**). Therefore, it was perhaps not surprising to find both men and women were living with others or living alone in similar numbers (χ^2 (1,79) = 0.049, p = .824).

There was a clear trend of low levels of community engagement for both men and women. However, this was not related to marital status (χ^2 (1,79) = 1.821, p = .177), or size of town χ^2 (2,78) = 2.025, p = .363); that is older people who were married were not less engaged than those who were widowed or not married, and those living in more socially inclined populations like Paynesville, were not more engaged than older people living in smaller communities. People living alone were also not more engaged than those living with others (χ^2 (1,77) = 0.297, p = .586), and both longer-term residency and better health, were also not found to impact levels of community engagement (χ^2 (1,80) = 2.967, p = .085 and χ^2 (1,79) = 0.050, p = .823). However, gender was found to make a difference, with more women participating in social clubs or community activities in some capacity (either regularly or

occasionally) than men (χ^2 (1,79) = 4.328, ***p* = .038**), and only four women (no men at all) found to be attending a religious service or event (regularly or occasionally).

Of interest were findings in relation to contact with neighbours and friends. While around half of all *private restricted* respondents (49%) had either no contact with neighbours (18%), or saw them less often than monthly (31%), further analysis revealed that older men were found to have significantly more contact with their neighbours than *private restricted* older women (χ^2 (1,81) = 5.306, ***p* = .021**); that is, 68% of women saw their neighbours less often than monthly, while 52% of men saw their neighbours weekly or more often. Similarly, patterns of engagement with friends in this network type varied widely. From 11% of respondents who indicated that they had no friends or never did anything with friends, to 12% of respondents seeing friends on a daily basis. Although the most common contact frequency with friends was 'at least weekly' (37%), followed by 'at least monthly' (23%), again, older men were more likely to catch up with friends a few times a week, while older women were more likely to only see friends 'at least monthly' (χ^2 (1,81) = 4.577, ***p* = .032**). Albeit, the frequency of telephone calls, as well as information and communication technology (ICT) use with friends was similar for both older men and women (χ^2 (1,81) = 0.420, p = .517, and χ^2 (1,77) = 0.023, p = .879).

Nearly all *private restricted* respondents were parents (91%), but just over one quarter of participants (26%) no longer had a living brother or sister. Older people were typically living more than 100km away from their closest relative, so face-to-face contact was infrequent, with most respondents (81%) seeing their closest (in distance) relative less often than monthly. However, telephone calls and emails with relatives were more frequent, with the two most common frequencies being at least weekly (39%) or at least monthly (28%).
A small number of respondents (17%) spoke with their families more often, either two to three times a week (13%), or daily (4%). While gender made no difference in the frequency of telephone calls (χ^2 (1,81) = 0.801, p = .371), older women were more likely to use ICT with relatives compared to older men (χ^2 (1,81) = 6.110, ***p* = .013**).

Three quarters of the *private restricted* network cohort used ICT to communicate with relatives; that is, 26% of older people indicated that they never used ICT to communicate with their relatives. Of those that were users, around half (56%) communicated with their relatives at least weekly or more often, while the rest were less frequent users. Further analysis showed that frequency of contact was not dependent on distance; that is, relatives living further away were in touch as often as those living in closer proximity (by telephone

(χ^2 (1,80) = 0.818, p = .366) and ICT (χ^2 (1,80) = 0.874, p = .350). Gender was not significant re distance to closest relative either (χ^2 (1,79) = 0.317, p = .573); that is, relatives were not living closer to older women compared to older men.

Conclusion to descriptive statistics

There were more men than women in this cohort, and they were typically married and aged less than 75 years. There was strong evidence of retirement migration in this cohort of older people, and the age pattern was consistent with high levels of retirement migration, that is, more people aged 65 years to 74 years compared to people aged 75 years and over. The overall level of community engagement was low, and both consistent with retirement migration, that is, people not yet being settled into community life, and consistent with older people who preferred less social contact generally. While participation in religious services and other social or community activities was generally low, older women participated more regularly than older men. Older men in contrast to older women, spent more frequent face-to-face time with both neighbours and local friends.

This summary highlights some departure from the Wenger description of the two subsets of older people usually found in this network type. For example, the Australian data showed evidence of retirement migration, with nearly all of the older participants living at distance from relatives and children, as well as a general lack of community involvement in voluntary groups or other formal social activities. However, there were some key differences from the Wenger description, especially that older people in this network type *had life-long patterns of low levels of social interaction, that is, minimal contact with relatives and neighbours*. The quantitative data indicated that older East Gippsland men had regular contact with their neighbours and local friends, and that both older men and women had regular contact with relatives by telephone and ICT. In fact, there was only a small group of older people who reported no contact at all with neighbours or friends or relatives.

In this data so far, there was also not a lot of evidence of the *independent couples who are usually retirement migrants who are primarily involved with only one another*, with data showing no significance in relation to the marital status or living arrangements of older people. Therefore, both similarities and key variations will be further explored through the analysis of the qualitative data in the next section of this chapter.

Exploring the lived experience

The qualitative data collected from older people in this network type comprises the lived experience. This data enabled greater visibility of people's day-to-day lives, enabling further exploration of the key Wenger characteristics of the *private restricted* network. The study's thematic analysis has provided the framework for the way the data is presented.

In the East Gippsland sample, the *private restricted* network comprised 82 people. A total of 45 valid comments (averaging 48 words) were provided via the research questionnaires and seven older people were interviewed. The key demographics of the people interviewed can be found in Table 5.7.

Table 5.7: Key demographic data for interviewees in the *private restricted* support network

Interviewee *pseudonym*	**Age**	**Community**	**Length of residency**	**Living arrangements**	**Marital status**	**Health status**
Judith	66	Swan Reach	< 25 years*	Spouse	Married	Good
Maurice	67	Swifts Creek	25 years +	Shared rental	Not	Good
Julie	69	Fernbank	< 25 years*	Spouse	Married	Good
Gordon	71	Eagle Point	< 25 years*	Alone	Not	Good
Susan	71	Kalimna	< 25 years	Spouse	Married	Poor
Karen	74	Paynesville	< 25 years	Alone	Not	Good
Arthur	75	Paynesville	< 25 years	Spouse	Married	Good

* *Lived in current place of residence less than 10 years*

Key findings from older people's lived experiences are presented through the three main themes of the thematic analysis: Supportive Relationships; Neighbourhoods and Community Engagement; and Accessibility.

Supportive relationships

Introduction

One of the important themes in this study related to the role of supportive relationships and who shared supportive relationships (or not) with older people. These relationships included giving or receiving one or more of the following: physical help, emotional support, affection and intimacy, companionship, friendship, filial duty or moral obligation. Relationships with spouses/partners, adult children and other relatives, friends and neighbours were included in this study. Supportive relationships with adult children, grandchildren and other relatives are

presented within the subtheme of *families*. Experiences of supportive relationships with both *friends* and *neighbours* are presented in separate subthemes. Supportive relationships of an intimate and personal nature are explored under *intimate relationships*.

Intimate relationships

The role of supportive intimate relationships was explored as part of this research. This included the roles of spouses and partners, as well as the loss of these types of relationships for those who were widowed. In this network type there were also older people living alone who had never married or were divorced who were not seeking to establish intimate relationships.

For older people who were married, spouses were found to be both companions and carers. There was evidence of preference for reduced social contact outside the home for older people who relied on their spouse as a key companion, but there were also older people experiencing restrictions regarding social contact outside the home due to caring responsibilities. As Arthur (24:25) described:

> *Limited with what you can do… out of school holiday we usually go into Bairnsdale probably one or twice a fortnight and have lunch and do a bit of shopping or something like that… I can do that, I have a small hoist in that car… wheelchair taxis are not viable, we got stuck in Bairnsdale for 3 hours one day because we didn't know school kids get priority.*

Older people who were in poorer health were also found to be more homebound and more socially isolated, although again, there was evidence of preference for less social contact outside the home environment, and a greater reliance on spouses for companionship. For older married people in poorer health, spouses were also found to be essential for maintaining home-based lifestyles, contributing significantly to the upkeep of the home, as well as managing basic activities such as shopping. As Susan (43:49) explained:

> *Well, it's self-imposed isolation* (due to health status) *but <husband> is still here so I don't get lonely... we don't talk a lot, because we never have. I suppose because <work situation> he didn't have access to a phone, so he's very abrupt on the phone…. all our lives we've been book readers, and with the new computer age, we've got computer games (laughs), simple computer games (smiles)… But, you know, I would quite happily pay for somebody to*

clean the windows, or even to come in once a week to do housework if we both get past it, because at the moment we share. He does the floors and the outside, I do the meal preparation, and the washing and the ironing. He does probably most of the shopping, but every so often I help (chuckles).

There were also a number of older people who were recently widowed, and adjusting to life alone. This provided further evidence of the reliance older people in this network had on spouses and partners for companionship, and the subsequent feelings of isolation following bereavement. Some older people in this situation were considering relocation back closer to adult children to tackle their loneliness.

Life gets pretty damn lonely. Nights are the sad times. I am thinking of selling my home and after that I will see what kids sugest I do. I love Orbost but I need to see more of my family but they are workers so I will have to make the move. It's a very scary thort but its now or never.
(Female respondent #383, aged 70 years)

Finally, a number of older married people in this network were still working part-time. While this had an impact on the level of social time available, there was still evidence that they were not seeking a significant level of social engagement outside their home during non-working time. There was also much greater visibility in the qualitative data of independent couples who were involved primarily with one another, either travelling locally, or further afield or spending time in their communities enjoying individual pursuits.

Most of my time is spent maintaining home/car, and visiting grandkids when not travelling overseas. Catch up with old friends and <previous work colleagues> for special events, otherwise wife and I stick to ourselves.
(Male respondent #419, aged 70 years)

In summary, intimate partners were often considered companions, and provided key social contact and company for older people in this network type. Intimate partners were also found to provide key support to older people in poorer health, enabling them to remain living in their own homes, maintaining their lifestyle choices and preferences. For older people in this network type widowhood had a profound impact.

Family

This sub-theme relates to the roles of adult children, siblings, other relatives, intergenerational relationships with grandchildren, and for people who were not parents, their experiences of support with other relatives including nieces and nephews.

Across this network, adult children and relatives typically lived at distance, so visits were not frequent. Older people who were parents spoke to their children at least monthly, or more often, on the telephone and via ICT, but there was still a general sense of people living independent lives. For Arthur and older people with caring responsibilities, relationships with family had appeared to change over time.

> *Ah, well, she's got family and that … and so don't see them too much. The other one <name>, in <location> she's got two sports minded boys and you just can't turn around and get them away from their sports to visit everyone, you know. And it's like everything else, you do tend to drift apart. Ah, she still rings up about once a week or something like that.* (Arthur, 4:44)

There was some evidence that being unable to visit children and grandchildren living at distance had contributed to reduced levels of emotional support; that is, reduced face-to-face time had impacted on the quality of their relationships. The lack of financial means to visit family and relatives living interstate and overseas was also evident. It appeared that for older people who had travelled or moved around during their working years, the ability to travel and visit had somewhat reduced with retirement, and they were now more constrained in these types of activities. As a consequence, living away from adult children, grandchildren and relatives had created new levels of social isolation for some people. Importantly, contact by telephone and ICT did not appear to fully replace face-to-face interaction, further contributing to feelings of isolation. This was also compounded for older people, with less inclination talk on the telephone.

> *Probably speak to one of kids about once a week, or texting is good. I write long texts and I get like a yes with a few x's next to it. They're very um, we're not a great 'communicator' family … not like some friends, who communicate continuously on Facebook, and this, that and the other. And I'm just, not that great a communicator. But we're there, we know we can ring and chat if we want to. I find they're really busy and I'm often busy with the garden and stuff.* (Karen, 13:49)

There was also a sense that children living at distance could only help so much, and older people did not want to share their worries with their children and relatives because they were living too far away to help. For older people who had chosen to move away from adult children, and who did not want to be too closely involved in the raising of grandchildren, they felt this feeling was mutual - that their children did not want to worry them too much with their own problems either. However, for some older people, families still had an important supportive role, and there was evidence that they would become involved in helping to make decisions with older people following bereavement.

> *If anything happened to him (husband), I'd probably look at my daughter with a blank look on my face and say, that room you built downstairs (laughs)… but I guess, I've seen some of the people who work at the local retirement places, they're quite friendly … I could probably sit back and wait for our daughter to say 'come and live with us', without pushing it.* (Susan, 1:12:41)

Finally, there was robust evidence of non-supportive relationships, and estrangement from families and relatives in this network type. Some of the estrangement patterns were related to divorce, and the separation of families, that is, there may be reduced contact with one parent. Some older people had patterns of life-long challenges with particular family members, and in some cases were now completely estranged from them. Family fracture and estrangement with one relative often contributed to a lower level of contact with other relatives, and it was clear that there would be no reliance on siblings or relatives for any kind of support for older people in those situations. As Susan (56:56) explained:

> *My Dad decided that after <years> of marriage, he wanted greener fields, so he divorced my mother, and then, made us choose, my brother and I, as to who we were going to support. We couldn't; we couldn't be friends with both of them was his attitude. So, it was tough, so we both chose our mother who had been around all our lives, and that was the last time I spoke to my father… Never hear* (from brother), *oh well, we exchange Christmas cards. He is a lot younger than me, <number> years younger than me. We've never been at the same stage of our lives. His wife is one of <number> children so he got sort of absorbed into her family.*

In summary, older people in the *private restricted* network generally lived at distance from their families, but unlike people in *wider community focused* networks, only some older

people had active relationships with their relatives, while others were estranged from siblings, or older parents, or adult children and grandchildren. For those with active relationships, contact by telephone and ICT was more frequent than visits, but some face-to-face contact appeared to be important to retain good quality relationships. Importantly, there was limited physical assistance available to older people in this network type from children and other relatives.

Friends

This section presents the findings on the supportive role of friends, what support looks like and what it doesn't look like.

Older *private restricted* participants generally spoke about one or two good friends or a small group of friends. Friends were important in providing a sense of connection to place for many people. For older people in poorer health, local friends tended to visit rather than be visited by the older person. There were also long-distance friendships from previous places of residence, and again, those older friends tended to visit older people who had moved to East Gippsland communities, noting East Gippsland offered good recreational activities for visitors. Older people in *private restricted* networks often shared similar lifestyles to their friends, and local friends were found to be emotionally supportive.

> *Living alone has its challenges but I feel I'm extremely lucky to have really good health. I'm able to walk my dog daily, I'm almost self-sufficient in veg and fruit and am able to walk daily in the garden. The support from a small group of friends in <name of community> is wonderful - having someone to call is crucial and relieves the stress, anxiety and gives a feeling of belonging.*
> (Female respondent #412, aged 72 years)

In addition to emotional and advisory support, some older people were also able to seek physical assistance from friends. While some older people preferred not to ask friends for help, older people living alone were more likely to accept help or to seek this sort of help from a friend rather than waiting for a relative to visit or paying for support.

> *So, there's this lovely group of people that came and helped me … and all I had to do was provide pizzas and more food and more food, and it snowballed from that and other people in the group … we all had a working bee around at their place and food was provided, so it's turned into this very supportive*

group. All you have to do is ask I'm told. So, I'm very lucky now, but most of us are newish to the <area>. (Karen 20:25)

There were also more people in this network type living in the mid-sized or smaller communities. Therefore, depending on the size and population of a community, sometimes there were less opportunities to make new friends. Older people living alone also had more limited support options when compared to an older person living with a spouse or housemate, and had to rely on people outside the home for additional support if it was required. Importantly, a good friend made it possible for some older people no longer able to drive to remain living at home in more isolated communities.

I love living in this area, but find it difficult at times being by myself. I have poor health now but was active until that last ten years. I am very lucky that I have someone who can pump water up to the tank, because I cannot do it now, and would be unable to live here otherwise. I cannot drive far either and that makes it difficult at times. My daughter is away a lot of the time. The same friend who starts the pump for me when needed, sometimes drives me to appointments and shopping. I consider myself very lucky there. I would not consider this to be a really close community, but we do get together for a Xmas B.B.Q. and the ladies can meet once a month for dinner at the local hotel. That of course is if you can afford it. (Female respondent #225, aged 71 years)

In summary, older people usually had only one or two good friends, or a small group of good friends, that typically provided a mixture of companionship, emotional support and a sense of belonging in the community. There were some options for physical assistance from local friends for older people who felt comfortable asking for this sort of help or accepting it when it was offered. Importantly, some friends were able to offer the sort of regular physical assistance required to help an older person remain living in their own home and community.

Neighbours

Neighbours were described as people who lived next door to older people. For people living on larger properties, neighbours were sometimes more distantly located but were the closest people available. Of particular interest in this study was the role of supportive neighbours, the types of tasks they were comfortable to do and what social boundaries existed between older people and their neighbours.

Relationships with neighbours for older people in this network type was varied, and there were different experiences for older men and older women. For some older people, neighbours were an important part of feeling connected within the neighbourhood, especially for people living alone or moving into the area from other communities. This was particularly evident for some of the older men interviewed including Gordon (15:16) who explained:

> *Oh yeah, I speak to this mob here, I got invited in there, um last, no, the Saturday before, for a few after Christmas drinks. I get on well with the people over the road. And I get on well with the people on the other side as well. Yeah, on average probably once a week… Oh well, normally I see, well, <name> lives just around the corner, and he's a single bloke, retired, and um, I see him nearly every day probably.*

For others, neighbours were friendly, but social boundaries were maintained. There were some experiences shared through the questionnaires that suggested some neighbourly experiences were negative (unfriendly and unwelcoming). This had influenced decisions to move on to another community, but the majority of study participants reported good experiences with neighbours where there was contact. Neighbours were found to be particularly important social contacts for older men more housebound with caring responsibilities.

> *… I just sort of, well, I get on well with the bloke next door <name>, and <name> over the back, I get on well with. Other than that, you don't have much time in the day, really, to do anything. Like a girl comes in <weekday> afternoon and <weekday> afternoon, and that's to be with <wife's name> so I can go and pay bills and nasty things like that (laughs). But other than that, you just live, you can't do much about it.* (Arthur, 15:25)

Finally, for older women living with someone else or living alone made a big difference in interactions with neighbours. As shown earlier, Karen who lived alone had connected with her neighbours and they were available to provide support if needed. Whereas two of the married women interviewed had no contact with neighbours at all. Albeit, both had husbands who had daily contact with their neighbours, and therefore they received a lot of information about their neighbours and the local area through their husbands. For another married woman, contact with their nearest neighbour (living about one kilometre down the road on the farm next door) was only monthly or less often, but help was available if required. For

example, when her husband became unwell the neighbours stepped in to assist her with the care of the farm stock (animals).

> *I mean poor <husband's name> he was pretty sick, the poor thing. And that's when, the neighbours were excellent because we had to drench our sheep and they just rang me up one day and said "look we're coming over" and they came over and drenched all the sheep, I couldn't do it on my own, so they were wonderful like that.* (Julie 24:02)

In summary, friendly neighbours were particularly important to older people who were experiencing a greater level of social isolation as a result of being homebound with caring responsibilities. For some older people, generally older men, neighbours were found to be a source of regular emotional support and companionship. Neighbours were also shown to be available to provide some physical assistance if required, even if the usual contact was low. For the majority of older people, neighbours were found to be friendly and welcoming, contributing to people's sense of belonging to the community, especially for older people more recently moved to the area.

Conclusion about supportive relationships

Older people in this network were typically living at distance from family and relatives, and depending on their personal circumstances, including their marital and health status, had a small number of supportive network ties with friends and neighbours. Most older people living alone, or caring for a spouse or partner, relied on at least one good friend or neighbour to help them remain living at home and within their community. Contact with families and relatives was found to be infrequent and varied, with some people having positive and active relationships with adult children and grandchildren, while others were found to be estranged from, or had minimal contact with, relatives. Travelling when younger, often for work, was felt to have contributed to creating more distant relationships with siblings and other relatives. Potentially over time, adult children too who may have moved away from their parents for education or work, developing their own independent lifestyles.

Importantly, for older people who lived alone, local friends and neighbours were common sources of physical or emotional support. For people who were married, the reliance on friends and neighbours was found to be more varied and appeared to depend primarily on health status and personal preferences. For example, older married women in poorer health were more likely to keep to themselves, relying only on their spouses for support and

companionship. There was also evidence that some married couples kept to themselves, travelling or spending time home together and not seeking a lot of contact outside the household. Finally, older people in this network type appeared to have only a small network of supportive relationships making them somewhat vulnerable in bereavement or the loss of supportive friends and neighbours.

Neighbourhoods and community engagement

Introduction

This theme was focused on older people's experiences of community, their sense of belonging, levels of participation in local events and social activities, work, volunteering and migration patterns in and out of community.

The quantitative data highlighted high levels of retirement migration and low levels of community engagement across the *private restricted* network generally. There was more involvement from women in community and social activities, particularly in attending religious services and events. This next section explores the different trends and experiences of older people within their neighbourhoods.

Neighbourhoods and community engagement

There was conclusive evidence of retirement migration to East Gippsland communities for the majority of this cohort. This was generally in the early retirement years of 65 years to 70 years. There were a number of reasons why people moved in retirement, including: finding a place that was more peaceful and away from the demand of others; finding a place where the climate was nicer; the pursuit of interests such as caring for the land and local wildlife; moving from farms into towns; moving to places enjoyed as holiday destinations in earlier life; and moving to retirement areas with like-minded people and less traffic. The following extract is a good example of this:

> *We love the isolation and the peacefulness. There are drawbacks of course i.e. mail delivery only 3 times a week, no rubbish pick up, although we are charged through council rates, not easy access to medical services, especially 'specialist' services. Neighbours are helpful and friendly without living in your pocket. Better attitude towards each other.* (Female respondent #191, 68 years)

Despite moving into East Gippsland communities, a key trend of this cohort was a low level of participation in social and community activities and almost no participation in religious

services and events. Older people were found to have a preference for spending time enjoying individual pursuits such as reading or gardening, or spending time as a couple exploring and travelling around the local area. A few older women spoke about playing golf, or horse riding, or attending U3A (University of the Third Age) for language and arts and crafts classes. A number of older people also spoke about enjoying the company of a dog or cat, noting there was a high level of pet ownership across this cohort of older people.

> *Acquaintances many, a couple of people I consider friends. I spent 30 odd years as a <occupation>. Turned 50, went bush. Spent the next 20 years as a seasonal worker all over Australia, seen a lot of country towns and met a lot of people my age. I am very happy living alone with my best friend a 11 year old kelpie cross ex working dog.* (Male respondent #84, aged 76 years)

For older married people housebound by caring responsibilities, there were real challenges in tapping into social and community activities. One of the most common problems related to the time of the day social events were scheduled or available. A number of older people also cited disability as a barrier to participation in social and community activity with a lack of good site access (ramps, disabled toilets etc.) as well as access to transport (wheelchair taxis etc) creating limitations to participation. There was also the issue of financial capacity to pay to join some social clubs. Some people had identified that club fees (e.g., Bowls Club, RSL, etc.) were too expensive, so they were excluded from participating on these grounds. However, there were also benefits of living in a smaller community where you were known, and where local businesses were able to be responsive to personal circumstances. For Arthur, a fulltime carer with limited out-of-home time, some of the services he was able to access in his community were invaluable.

> *They're all pretty good around here because everyone talks to ya. You go down the street, you know everybody down the streets, you know, the chemist, the newsagents. I can go down and drop off the scripts and they come and drop off the pills in the afternoon. You don't have to hang around.* (Arthur, 25:59)

Finally, local infrastructure was also mentioned by the participants most affected. In a similar manner to issues raised by people in *wider community focused* networks, older people in *private restricted* networks found variability in access to digital technology infrastructure depending on where they lived. This restricted their access to mobile phone technology and ICT more broadly. Smaller and more remote communities were the most affected, with older

people in these communities somewhat more accepting of these limitations, but it was noted that these communities would benefit the most from improvements in these types of services.

In summary, there was conclusive evidence of retirement migration to East Gippsland communities for the majority of this cohort, generally in the early retirement years of 65 years to 70 years, with older people looking for a nice community to settle and engage in individual pursuits and travel around the area. Engagement in social clubs and community activities was typically low with older women more likely to particulate compared to older men. There was a high level of pet ownership and time allocated to enjoying time with, and caring for, pets. For older people more housebound with caring responsibilities both neighbours and the local business community were important in providing support as well as helping the older carer to feel supported.

Being alone

This sub-theme explored older people's levels of emotional self-sufficiency; the types of home-based activities enjoyed as well as older people's experiences of loneliness (if they existed).

This was a common theme for older people living in *private restricted* networks and levels of loneliness were varied. Older people indicated preferences in spending time alone or with a spouse or good friend. Reading, home and garden maintenance as well as exploring the countryside were commonly mentioned activities. A number of older men also declared a life-long interest in looking after and 'tinkering with' or making modifications to their cars. For one older man, caring for local wildlife took up significant amounts of time and commitment and involved spending time on his own in the company of 'animal friends'. Some older people, especially those living on the land outside towns, liked to grow vegetables in their gardens.

There was some variation in the levels of loneliness experienced by older people in this network type, but older people who spoke about loneliness were found to have been recently impacted by bereavement or loss of close relationships (people moving away from the community) and were still adjusting. For the overall majority, spending time alone was a preference, and most people expressed that they did not generally experience loneliness in their day-to-day lives.

> *No after moving around, it's too much of an effort to make new friends and I'm quite happy with my own company, that's where my son gets it from.*
> (Susan, 29:05)

For older people still in business or working part-time, spending time alone was precious and individual pursuits were an important outlet for wellbeing. One older woman also reflected on some of the challenges of losing physical capabilities with ageing. In particular, she reflected on what she saw in residential aged care homes and the potential impact of losing her eyesight (down the track) on her solitary activities.

> *I love reading, oh, I can't, you know, I just couldn't bear not to read… and I think they overlook that a lot with elderly people, they don't realise that you know, you lose your vision and no matter how fit and good you are, your vision deteriorates as you get older and if you have been an avid reader, or I do a lot of crosswords, or jigsaw puzzles, nobody ever thinks that, we'll just stick 'em in a room and put a bit of music on or whack the TV on. It horrifies me.*
> (Julie 28:43)

In summary, there were two different groups of older people who spent time alone: those that had preferences for less social contact and spent more time alone as result of their interests and lifestyle choices; and those who were forced to spend more time alone as a result of their caring responsibilities. However, with both groups pet ownership was very common, and for those who had less social contact, their pets were all the more important.

Conclusion to neighbourhoods and community engagement

There was clear evidence of retirement migration into the East Gippsland community. Furthermore, there was clear evidence of the two Wenger patterns: migrating couples preferring to spend time only with one another; and older people who had withdrawn from social contact and community activities. There was evidence of self-sufficiency lifestyle patterns together with a low level of participation in social and community activities across the cohort.

Accessibility

Introduction

One of the key themes that came out of this study related to access to services and community activities. There were a number of factors identified that impacted access, including:

- the availability of services;
- having the skills to find services and coordinate them if required;
- having the financial security to be able to purchase services;
- motor vehicle driving or the availability of public or community transport;
- being able to manage chronic disease at home; and
- access to medical and specialist care as well as the financial security (including access to health insurance) to be able to access that care if needed.

Therefore, the presentation of qualitative data in this section uses three key sub-themes: paying for support, including preferences for paid services and types of paid services commonly accessed; older people's experience of motor vehicle driving or not driving; and finally, access to medical services, including access to both general practitioners (GPs) and specialist care.

Paying for support

This sub-theme presents data related to access and preferences around paying for services and care. This was an important theme for older people in *private restricted* networks since there was a strong preference to pay for services, especially household maintenance services. The preference for paying for services related to not imposing on others, especially friends and neighbours. The preference also related to a self-image of independence or of having the job done properly when it was no longer able to be attended to personally. This was particularly evident for older men, many of whom were no longer able to climb ladders or had lost the required strength and dexterity required for some maintenance jobs. As Maurice (33:22) pointed out:

> *My sister gets frustrated that I don't charge for my <type> jobs, but I like to pay others for the jobs they do. It is about respect for the time they are giving and the skills they are providing.*

However, there was also a group of people in this network type, generally older people who were caring for a spouse or living alone, who appeared to be under greater financial stress when compared to others and were often paying for services because they were no longer able to attend to these jobs themselves, or they had no other options available to them.

> *I can't lift, so I've got to use trolleys. I do have one guy, a home maintenance guy, I was the first to employ him when he first came to <area>. And he is just amazing.* (Karen 22:02)

In summary, older people in this network type generally paid for the services they needed, either by preference (maintaining independence and not imposing on anyone else) or because they had no other option available to them. There was some frustration from older men in particular about no longer being able to do some of the jobs they used to do. These jobs often involved using ladders, e.g., cleaning out the gutters. There was acknowledgement that some jobs simply required professional services.

Motor vehicle driving

This sub-theme related to driving independence versus reliance on others for transport. It also covered key aspects about people's experiences of public and community transport (where it existed). Most people in this cohort still had access to a private car and there was considerable concern about the loss of a driver's licence in future years. There were both convenience issues as well as financial implications with having to rely on private taxis (which were not readily available in smaller communities) or to rely on public transport. Certainly, for older people in this cohort living in smaller communities, public transport was considered to be either limited or not available. There were also people who enjoyed driving, and many commented on the convenience aspect of being able to drive a private car; that is, being able to go where to you want to go, when you feel like it. As Gordon (31:10) explained:

> *I'll give up driving when I feel that I can't drive anymore… certainly living down here it would make a hell of a difference, if you don't have your own freedom, you know, to go where you want to. … Think I'd rather pass on before I get to the stage where I can't, you know, look after myself or do what I want to do.* (Gordon, 31:10)

There were several older *private restricted* participants who could still drive but who were not confidant to drive too far from home. They acknowledged this change in driving confidence

was the first step towards becoming a non-driver, and this would have a significant impact for those older people living in smaller towns or out-of-town communities. For older people who were married, there was usually a spouse available to provide driving support. For Susan, living with a chronic illness, she had the support of her husband in getting to and from medical appointments.

> *If it's local I drive myself. Um, if it's further than <town> he drives, because we only have one car now, and, even though he won't say it, I know he worries about me if I'm out by myself. So, he will drive me and bring his book and sit in the car and read until I come out.* (Susan, 45:57)

In summary, the lack of a driver's licence had greater implications for older people living alone, because couples usually had access to the driving support of their spouses or partners. For older people living in smaller communities, options were very limited, and there was considerable concern about becoming a non-driver. There were also people in this network type who enjoyed driving, so becoming a non-driver would impact in more ways than just access to shops or medical services. Older people in this network had some access to private cars outside the home, but this was reliant on one individual (usually a good friend, but sometimes a neighbour). Older people living out of town or in smaller communities without a driver's licence often had to move from their current location.

Access to medical care

One of the common subthemes regarding access to services in this research related to access to medical care. This section presents findings about older people's experiences of access to medical care, how far people had to travel to access medical care and the implications of access to medical care on their ability to manage chronic illnesses at home.

The vast majority of older people in this network type had trouble getting access to GPs in a timely way and in particular, receiving continuity of GP care. A number of older people made the observation that GPs rotated in and out of the community making continuity of GP care particularly challenging. Access to medical specialists and dentists close to home was also cited as problematic. A few people with personal experience of caring for someone with cancer noted that despite the area being a retirement area, many operations and access to radiation treatment still required at least two hours travel to hospital care in the Latrobe Valley because those services were not available locally. A few people also spoke about

access to services from a specialist geriatrician, although again, people generally had to travel to access services, and while some people also noted that there were telehealth services available for some specialist care, they had not used them personally.

It was also common for older people to have to travel to Melbourne to access various types of specialist care. However, requiring overnight accommodation in Melbourne was not generally welcomed by people across this cohort for a number of reasons including the need to arrange for the care of pets and the costs associated with Melbourne-based accommodation. There was also notable variability in financial security (including health insurance) across this cohort creating variability in access to more expensive medical services.

> *My husband has to have a procedure that can only be done at the Alfred. We have only lived in Victoria for the short while that we have lived in <smaller community>. We cannot drive as far as Melbourne and we are having trouble in finding a way to get there. He has to be at the Alfred at 7am on the day and they say they will not have a bed so that he could be admitted on the day prior. We find all of this is a problem.* (Female respondent #327, aged 78 years)

For older people who were carers, there were arrangements in place to manage both short term and longer-term illnesses. For Arthur there were options regarding both scenarios. As he (18:08 and 39:30) explained:

> *Our package is about at the limit but there is money there if something happens to me. I done my <body part> a couple of years ago, and that allowed them to put two people in to help me… Know something's going to happen sooner or later, somewhere along the line. We just know, that well, <wife> sort of knows, that if anything happens to me, she'll be in a nursing home... Oh, well, as long as I could still look after meself I would probably stop here, I suppose, I don't know. I've got me ferocious little feline out there to look after (laughs).*

In summary, most older people found it challenging to access medical care and their GP of choice. The exception to this was older people living with a chronic illness, where there was generally good continuity of care. For older men with caring responsibilities, there was general anxiety about the maintenance of their own health, because it had direct consequences for the people they were caring for. However, they accepted they would have to rely on

formal services for carer support. For older people in constrained financial circumstances, access to medical care was both stressful and difficult.

Conclusion to accessibility

This was an important theme for older people across this network type, with nearly all participants concerned about some aspect of access to services, particularly medical care. Maintaining driving independence was of greater concern to older people living outside of towns (or in smaller communities), where there were limited options outside of owning a private car, and for those who were not married or partnered because social ties outside the household were limited. There was also a preference to pay for services and support rather than rely on social network ties. However, it should be noted that there was evidence of financial stress for some older people, and this was found to have an impact on access to services.

Conclusion to the lived experience

There were different subsets of older people in this network type. Older women were found in the two typical Wenger subgroups: couples who spent most of their time together with some social contact with friends, and older people who had limited social ties more broadly. Older men, however, were found to have frequent contact with both friends and neighbours, especially older men living alone. Older people were found to be moving into the East Gippsland region to enjoy a retirement lifestyle away from their adult children and grandchildren. For a small group of people, there were clear patterns of family estrangement because of the breakdown of family ties. This was particularly evident with sibling relationships. Older people were protective of their independence and preferred to pay for services where they could. Loss of a motor vehicle driver's licence was of considerable concern to most older people in this network type with many of them travelling both locally and further afield in early retirement. Some older people were also in caring roles that limited their social contact with others, and older men in these roles were found to have frequent contact with their neighbours. Social support was therefore varied based on lifestyle choices and uncertain for older *private restricted* people with minimal social network ties.

Summary of the private restricted support network findings

As the name implies, older people in *private restricted* networks were found to have a small number of social network ties. Retirement migration was common and older people generally lived at distance from adult children and other relatives. Older people in this network type

were typically found in the mid-sized towns of Paynesville or Orbost or one of the small East Gippsland communities. There were more men than women in *private restricted* networks, and gender was found to play a significant role in patterns of social or community engagement.

Involvement in social clubs and community activities was very low overall, but women were more likely to be involved compared to men. Contact patterns with friends and neighbours were varied with older men more likely to see friends and neighbours at least weekly compared to older women. Regular telephone contact with relatives was common across this network although there was a sense of independence in both older people and their adult children, that is, they were accustomed to living at distance from each other and having separate interests and lifestyles. Women were found to have greater ICT contact with adult children and grandchildren compared to men although at least weekly and at least monthly telephone calls and ICT use were the most common. Of interest in this cohort of older people were the emerging patterns of estrangement and discord in families with some older people no longer having contact with older parents or siblings and in some instances were estranged from adult children and grandchildren.

Caring responsibilities were also prevalent in this cohort of older people. Intimate partners and spouses were found to be crucial for older people living with chronic diseases or terminal illnesses with regard to being able to remain in their own homes and maintain lifestyle choices and preferences. There was also evidence of independent older couples who were primarily involved with each other with respect to home or community-based activities or travel both locally and further afield. These couples spent time with friends, but at least monthly contact was the most frequent type of contact and contact with neighbours was similar or even less often.

Finally, older people spoke about their preference for paying for the help they needed, concerns about the loss of driving independence and concerns re access to medical care and local services. Pet ownership was very common across this cohort and levels of loneliness varied. Older people commonly spent a lot of time on their own by choice although a number of older people in caring roles were more socially isolated as a result of caring responsibilities, while others were more socially isolated due to a lack of the financial means to belong to groups of interest.

The Australian data showed some differences from the Wenger description of the two subsets of older people usually found in this network type. For example, *the qualitative data* provided much clearer evidence of the subset of independent couples (who were usually retirement migrants who were primarily involved in only one another). Interviews and questionnaire comments were helpful in revealing the reasons older people had for moving to the retirement communities of Paynesville and Orbost, or to one of the smaller East Gippsland towns and communities, and the types of social or individual/solo activities older people enjoyed.

Both the quantitative and qualitative data in this study revealed differences in the contact patterns older people had with relatives and neighbours in Australia, compared to the Wenger description. For example, the majority of older East Gippsland men had both regular and frequent contact with their neighbours, and, both older men and older women, had regular contact with relatives by telephone and ICT. However, levels of face-to-face contact with relatives was infrequent due to both the geographical distance between them, and personal preferences to live more emotionally apart and lead more independent lives. Importantly, older people in this network displayed life-long patterns of reduced social contact, and a heavy reliance on only small numbers of people for social support. In married couples, there was a heavy reliance on a spouse or partner, while for older people who were single (widowed or never married), there was often reliance on one good friend. This reliance on only one or two others made older people in this network type somewhat vulnerable in the face of change, or loss, of those ties.

Summary of the first results chapter

The study sample characteristics broadly mapped onto those of the wider East Gippsland population of women aged 65 years and older, supporting generalisability. Oversampling resulted in a higher proportion of men aged 85 years and older in the sample, relative to the population.

Using the Wenger *PANT*, 95% of participants were conclusively allocated into the Wenger *Support Network Typology*. This supported the effectiveness of the Wenger *PANT* for establishing a meaningful network typology in an Australian population.

The thematic analysis showed that older people identified a range of relationships, feelings and activities that contributed to their sense of wellbeing and to routines of everyday life.

Supportive relationships, a sense of belonging and safety within a local neighbourhood, and the accessibility of services were all important contributors to levels of social support.

The Australian Wenger *wider community focused* support network (39% of the sample) and the Australian Wenger *private restricted* support network (22% of the sample) were the two largest (most populous) networks. The majority of older people in both networks were parents who lived at substantial distance (more than 100km away) from their adult children and grandchildren, having migrated to the East Gippsland area in retirement. Older people in both network types typically migrated to live in areas with a more attractive climate and smaller, less populated communities with good basic infrastructure like shops and medical facilities. However, patterns of social interaction for both groups of older people looked quite different, reflecting their preferences in lifestyles and personal circumstances. *Wider community focused* older people were broadly occupied with finding and participating in social activities and community endeavours, while older people in *private restricted* support networks were more diverse and found to comprise three distinct sub-groups as follows:

- those focused on individual pursuits as a single or couple (such as travel or fishing) within a contained social life (limited contact with friends and neighbours) – both ageing-in-place and retirement migrants; or
- retirement migrants living alone, but building relationships with local friends and neighbours (limited but growing social network); or
- older people who were socially isolated due to personal circumstances such as poorer health, reduced financial means or fulltime caring responsibilities.

Chapter Six: Presentation of Results: Part 2

Introduction

This chapter is the second of two chapters presenting the results of this study.

This chapter, Presentation of Results: Part 2, begins with a presentation of the network characteristics and profiles of the three smaller Australian Wenger networks; the *locally integrated* network, the *local self-contained* network, and the *family dependent* network. All three of these support networks, in contrast to the *wider community focused* and the *private restricted* support networks from Chapter Five: Presentation of Results: Part 1, comprised older people with adult children and other relatives living within 100km of them.

A description of each network is presented in two parts: (A) an analysis of the quantitative data collected from the questionnaires; and (B) a discussion of the themes generated from the study's thematic analysis. The qualitative data was sourced from data collected at interview, as well as the comments provided by respondents in the questionnaires.

The quantitative analysis utilised *descriptive statistics* and the chi-square (χ^2) test of independence calculation to identify trends of significance. Key demographic variables such as age, gender, marital status, health status, living arrangements as well as place and length of residency, were tested within each network profile where relevant. Key themes from the study's thematic analysis were used to describe the *lived experience* of older people embedded within a given network. This section concludes with a summary of all network findings.

Finally, the community network profiles found across the East Gippsland region are presented, before this chapter concludes with a summary of the results generated from this chapter.

The Locally Integrated Support Network

Introduction

The Wenger *locally integrated* support network is characterised by active relationships with local family, friends and neighbours (Wenger, 1991, 1994). Older people in this network type are typically long-term residents of their communities and are, or have been, recently involved in community activities and voluntary groups. Older people often belong to the local church or chapel, and members of an older person's *locally integrated* support network are known to each other. There is generally no distinction between friends and neighbours, and established patterns of reciprocity with friends and neighbours are common. The main source of assistance is usually from a younger generation family member in another household.

The *locally integrated* network in the Australian data was found to be the third largest network in the Australian *Wenger Support Network Typology*, (18%, n=69). The key network characteristics of the Australian *locally integrated* support network are presented through both a quantitative data analysis, and a discussion of key themes from the study's thematic analysis. A summary of key findings concludes this section. Please note that all network frequency data and all tests for independence are presented in tables in **Appendices 23 and 24.**

Identifying key network trends

One of the first key trends found within this network type was that community involvement and social participation was high. Four out of five older people (83%) participated in social activities regularly within their communities, with more than one third (39%) also attending religious services and events regularly. Due to the high levels of social participation, only a small number of tests for independence were able to be calculated. However, these calculations provided further support that a broad pattern of community engagement was characteristic of older people in this cohort, with marital status, living arrangements and length of residency all found to be independent of community involvement (χ^2 (1,68) = 0.170, p = .680, χ^2 (1,65) = 0.119, p = .730 and χ^2 (1,67) = 1.220, p = .269 respectively), or attendance at religious services (χ^2 (1,68) = 1.298, p = .255, χ^2 (1,65) = 0.603, p = .437, and χ^2 (1,67) = 0.303, p = .582 respectively). That is, older people who were widowed or living alone or were newer to the community, were not more or less engaged in social activities or

religious services than older people who were married, or living with others, or who were longer-term residents.

Given the high levels of social contact across this cohort, it was perhaps not surprising to find the majority of *locally integrated* respondents (85%) were living in the larger East Gippsland communities, with nearly half of them (42%) living in the main township of Bairnsdale. While there were more people aged 75 years or older living in Bairnsdale (78%), age was not found to be statistically significant in relation to the size of the town (χ^2 (2,69) = 3.809, p = .149). What was surprising was the considerable levels of migration found across this cohort with only about half of the respondents (52%) having lived in the same East Gippsland community for more than 25 years. This was particularly interesting, because those newer to the area (48%) were found to have relatives living close by. While there were more female respondents (62%), and a high level of widowhood (39%), in this cohort, gender and marital status were not found to be influential on the length of residency (χ^2 (1,67) = 0.287, p = .592 and χ^2 (1,66) = 0.000, p = .998). In fact, other personal circumstances, such as health status (χ^2 (1,66) = 0.184, p = .668) or living arrangements (χ^2 (1,63) = 0.136, p = .712), did not appear to significantly influence migration patterns either. Given the proximity of relatives and the high level of residency in Bairnsdale itself, this suggested that the migration patterns found within this network type was as a result of migration from within the East Gippsland region. That is to say, older people had moved from smaller East Gippsland communities and farms to larger towns.

Locally integrated respondents were also found to have face-to-face contact with both neighbours and local friends at least weekly or more often (94% and 96% respectively). Interestingly, men were found to have more frequent contact with their neighbours when compared to women (χ^2 (1,69) = 6.048, ***p* = .014**). In contrast, men and women had similar contact patterns with friends (χ^2 (1,69) = 0.349, p = .555). Other attributes and personal circumstances did not appear to alter fundamental patterns of contact with neighbours or friends. That is, age (χ^2 (1,69) = 0.667, p = .414 and χ^2 (1,69) = 1.804, p = .179 respectively), marital status (χ^2 (1,68) = 0.146, p = .702 and χ^2 (1,68) = 1.442, p = .230 respectively), health status (χ^2 (1,68) = 0.309, p = .578 and χ^2 (1,68) = 0.010, p = .920 respectively), and living arrangements (χ^2 (1,65) = 0.056, p = .813 and χ^2 (1,65) = 1.233, p = .267 respectively), were not found to be influential on the frequency of face-to-face contact with neighbours or friends across this cohort.

Nearly all *locally integrated* respondents were parents (98%). Regular family contact was not surprising given that the majority of respondents (91%) were living within 20 kilometres of at least one adult child, and nearly half (48%) also had a sibling (brother or sister) living close by. The most common visiting frequency reported was two to three times a week (42%), but one quarter of respondents (25%) saw their families daily. The remaining respondents reported seeing their families 'at least weekly' (29%), with only a small proportion of respondents seeing their families less often (4%). Importantly, personal attributes and circumstances did not seem to alter the fundamental patterns of family contact for *locally integrated* respondents. Respondents who lived alone, who were widowed, or those in poorer health, saw their families just as frequently as those who lived with others, were married or who were in better health (χ^2 (1,65) = 0.136, p = .713, χ^2 (1,68) = 0.494, p = .482, and χ^2 (1,68) = 3.235, p = .072 respectively). Similarly, older people who lived in smaller communities saw their families as often as those living in the larger communities of Paynesville, Orbost and Bairnsdale (χ^2 (2,69) = 4.855, p = .088).

In addition to frequent visiting, respondents were also found to have regular telephone conversations with their families. Approximately one third of respondents (32%) spoke with their families on a daily basis, and another third (33%) two to three times a week. The rest of the respondents spoke to relatives on the telephone 'at least weekly' (28%) or less often (7%). There was a similar pattern around the use of information and communication technology (ICT). While just over a fifth of respondents (21%) indicated that they did not use ICT at all, the majority (79%) were users. In fact, several respondents (14%) were daily users, and approximately half (51%) used ICT a few times a week. Importantly, due to the widespread levels of connection and communication with others across this cohort, there were no statistically significant differences regarding the frequency of telephone calls or ICT use older people had with their relatives. Variables tested were: gender (χ^2 (1,69) = 1.041, p = .307 and χ^2 (1,65) = 1.817, p = .178 respectively); age (χ^2 (1,69) = 2.009, p = .156 and χ^2 (1,65) = 0.074, p = .785 respectively); marital status (χ^2 (1,68) = 0.129, p = .720 and χ^2 (1,65) = 3.102, p = .078 respectively); living arrangements (χ^2 (1,65) = 0.198, p = .656 and χ^2 (1,61) = 3.303, p = .069 respectively) and health status (χ^2 (1,68) = 2.583, p = .108 and χ^2 (1,64) = 0.226, p = .634 respectively).

Conclusion to descriptive statistics

In summary, as the network name implies, people in *locally integrated* support networks were found to have multiple social ties across their communities. There was regular contact with adult children and siblings who lived in close proximity. Involvement with local friends and the broader community was also prevalent. Older people were regularly in contact with their neighbours, or involved in various social and community activities, irrespective of age, marital status or health status. Interestingly, gender was important regarding contact with neighbours only, with older men seeing their neighbours more frequently than older women.

Older people embedded in *locally integrated* support networks were also found to be living in the larger population centres of East Gippsland, with the majority of them living in either the regional centre of Bairnsdale, or the mid-sized towns of Paynesville and Orbost. While there was a considerable level of migration found across this cohort, the level of contact, and proximity of family and friends, all suggested that older people had moved into larger towns from farms and smaller communities within the region. There were also high levels of widowhood, and nearly half of this cohort of older people were living alone, suggesting that migration into larger centres may have been made post-retirement or following bereavement.

Key characteristics that were consistent with the Wenger *locally integrated* support network type were the active relationships older people had with local family, friends and neighbours, as well as, the high levels of community engagement and regular attendance at religious services and events. Those characteristics that required further exploration from the qualitative data included: migration patterns and where people had moved from; the types of community activities older people were involved in, including memberships to service and voluntary organisations; what relationships with friends and neighbours looked like, and if there were established patterns of reciprocity; and finally, if a younger generation family member in another household was a regular source of assistance for older people.

Exploring the lived experience

The qualitative data collected from older people in this network type comprises the lived experience. This data enabled greater visibility of people's day-to-day lives, enabling further exploration of the key Wenger characteristics of the *locally integrated* network. The study's thematic analysis has provided the framework for the way the data is presented.

In the East Gippsland sample, the *locally integrated* support network comprised 69 people. A total of 39 valid comments (averaging 42 words) were provided via the research questionnaires, and six older people were interviewed. The key demographics of the people interviewed can be found in Table 6.1.

Table 6.1: Key demographic data for interviewees in the *locally integrated* support network

Interviewee *pseudonym*	**Age**	**Study community**	**Length of residency**	**Living arrangements**	**Marital status**	**Health status**
Eric	68	Bairnsdale	< 25 years*	Spouse	Married	Good
Albert	78	Bairnsdale	25 years +	Spouse	Married	Good
Thomas	78	Paynesville	25 years +	Alone	Widowed	Bit up/down
Roy	79	Orbost	25 years +	Spouse	Married	Bit up/down
Mabel	81	Bairnsdale	25 years +	Alone	Widowed	Bit up/down
Daisy	92	Orbost	25 years +	Alone	Widowed	Good

* *Lived in current place of residence less than 10 years*

Key findings from older people's lived experiences are presented through the three main themes of the thematic analysis: Supportive Relationships; Neighbourhoods and Community engagement; and Accessibility.

Supportive relationships

Introduction

One of the most important themes in this study was role of supportive relationships and who shared supportive relationships (or not) with older people. These relationships included giving or receiving one or more of the following: physical support; emotional support; affection and intimacy; and filial duty or moral obligation. Relationships with spouses or partners, adult children and other relatives, friends and neighbours, as well as more casual relationships within social groups and across the community, were also included in this study.

Given the high levels of widowhood in this cohort, experiences of widowhood were explored, and are presented, within the subtheme of *intimate relationships*. Supportive relationships with adult children, grandchildren and other relatives, were explored, and are presented within the subtheme of *families*. Supportive relationships with both *friends* and *neighbours* are also presented in separate subthemes.

Intimate relationships

The role of supportive intimate relationships was explored as part of this research. The roles of spouses and partners, as well as the loss of these types of relationships, for those who were widowed.

Support within an intimate relationship for this cohort was closely linked to companionship. For older people who were widowed, it was this loss of companionship resulting from bereavement that was described as the most difficult aspect of adjusting to living alone. There were different bereavement patterns and experiences of widowhood, and both the timing and nature of the bereavement were important factors. For newly bereaved older people, especially for those people who had experienced a more sudden loss, there were the challenges of adjusting to life alone, and having to reorganise the usual activities of daily life. Despite the significant support received from family and friends, older people in these circumstances still communicated feelings of loneliness. A number of older women had also moved to smaller and more easily maintained accommodation following bereavement. For older people who had been bereaved for ten years or more, the transition to living alone had been made, and reminiscences of married life were often enjoyable rather than upsetting. In particular, new living alone day-to-day routines were in place, and both family and friends (often neighbours) had replaced much of the companionship that had been lost. Many older widowed people in this situation were content, and minimal experiences of loneliness were expressed. As Thomas (13:13) explained:

> *Oh no, I'm happy to see people, if people come, I'm very happy to see them, but I don't seem to be wanting of them. I get enough company, the guy next door, and I've got very good friends across the road there, and <name> who lives next door and his wife and if I want company, it's there. Um, not sure if that makes sense or not, but there it is. (pause) I am not alone, I mean my son's here more regularly than he used to be, and my grandsons, his children, one of them's turned 18 and he's now got a car, and those two boys come down and see me on a regular basis. (pause) My grandchildren are probably very attentive to me. You know, even the ones in Melbourne, they come down with their girlfriends and boyfriends and spend a night with me. (pause) I've very good relationships with them, they're terrific kids.*

For married couples, the companionship of an intimate partner was an important part of their life. Activities commonly identified as companionship were chatting and conversations, playing board and card games, and sharing household tasks. Most of the people in this network type did not want to think too much about what might happen to their current lifestyles if they were to lose their spouse or partner.

In summary, intimate relationships were considered an important source of companionship in older age. However, for those without an intimate relationship, companionship was able to be sourced from other available relationships within the social network.

Family

This sub-theme relates to the roles of adult children, siblings, other relatives, intergenerational relationships with grandchildren and for people who were not parents, their experiences of support with other relatives, including nieces and nephews.

This was a strong theme within this cohort of older people. Older people typically spoke about both the social contact, and the care they received, from their adult children and grandchildren. The oldest people in this cohort, particularly those who were widowed and living alone, typically received support from their adult children. It was common for locally based adult sons to help with general household and garden maintenance. Daughters tended to provide help with gardening, but they also assisted with shopping, other odd jobs around the house, and spent time 'having a chat', or sharing meals, with their widowed parent.

> *It's a bit hard for them, but one of the daughters likes gardening, and when she comes up to spend a couple of days, she'll usually do a bit of gardening for me. Hopefully she'll be up next week. Other than that, I pay for a gardener to come and do the gardening. The son mows the lawn, which needs to be mowed at the moment (smiles).* (Mabel, 41:59)

Of note, all of the widowed older people interviewed received some form of government subsidised home help. This was usually related to the more strenuous household tasks like washing floors, vacuuming floors and cleaning bathrooms. There was also a number of examples of older people, or their families, moving to live in closer proximity to each other. This was often linked to assisting with the care of grandchildren. These migration patterns were viewed as positive by older people.

> *Four kids and we see them often because they're local. Yeah, mainly keeps the wife happy because her family's here. When our daughter lived < distance> away, she used to drive up and down the highway at least every month (chuckles).* (Alfred, 2:03)

The majority of older people also saw, or spoke with, their locally based siblings regularly. Weekly contact was common for people who lived in close proximity to each other, with a number of older men and older women describing close relationships with a sister. Some older people also received practical assistance from a local sibling. Shared transport for weekly shopping or to attend a social function were common. For older people with siblings that lived further afield, efforts were made to keep in touch and visit.

> *We travel to see wife's sister as often as we can. She's my age, she lives on her own. Her husband died a while ago. He developed cancer and spent a bit of time at <hospital> and then went home to die. (pause) Which was sad for all of us, because he was a good mate of mine.* (Albert, 2:41)

Telephone calls were also common, which enabled older people and families, both living at distance, and living locally, to keep in touch. The telephone was viewed as an important mechanism for families to check in with older relatives living alone. ICT also offered other ways of keeping in touch. Some respondents were regular users of computers, using both email and social media to keep in touch with siblings, children, grandchildren, as well as nieces and nephews. As Eric (4:57) explained:

> *Niece has got, what do ya call it, one of the apps she's tried to get me onto but I haven't bothered, I just, sort of, text her (laughs) or talk to her, but I haven't bothered to Skype her, only that they don't call it Skype but some other thing, Facetime or something like that.*

There was evidence that emotional support was more forthcoming from adult children rather than siblings for this group of older people. Many respondents highlighted that their siblings were older or in poorer health than themselves, so this was perhaps not surprising. Notwithstanding that older people also had friends to confide in, the older men in this study highlighted the importance of their locally based sons in providing companionship and the role of confidant. For the oldest person interviewed, Daisy (aged 92 years), there were also very few friends or siblings (peer-aged people) left to confide in. Her two locally based sons

and their families lived on neighbouring farms, and provided both regular companionship and the support she needed to stay living in her own home located out of town.

Grandchildren and great grandchildren were also identified as important relationships for older people. As we saw earlier, some participants had regular contact. For others, contact either in person or via social media, was more sporadic. Most accepted that they would see their grandchildren less and less as grandchildren became independent, had children of their own, or had moved away. As Albert (54:18) explained:

> *… I'm on Facebook. Oh, I check it every day, every morning just after I wake up, I check Facebook and find out where the grandkids are and what they're up to (smiles). Couple of 'em I've sent little messages saying "there's no need for that sort of language" (laughs).*

In summary, family and relatives were an integral part of life for *locally integrated* participants. At least one adult child lived in close proximity to older people, and were especially valued as companions, and confidants. Adult children and locally based siblings were found to provide transport for older people no longer able to drive. Grandchildren, nieces and nephews were also evident in the lives of older people. While face-to-face contact with family members and relatives was common, there was also widespread use of telephone calls, ICT and social media, to communicate and stay in touch.

Friends

This section presents the findings on the supportive role of friends, and what support looks like and what it doesn't look like.

Friendships were important relationships for older people in this network type. Local friends were often in the same social groups, or enjoyed the same types of social activities. Some friends were life-long and had shared many life experiences with older participants. Others were newer friends, found in retirement through various social activities, and who may have moved more recently into the community. Due to the levels of migration found in this cohort, older people also had friends living in other communities. Friends were often neighbours, and some older people had also developed friendships with younger people in their communities. Some of them were the children of local friends, who also provided assistance with various tasks. As Roy (35:58) explained:

Well, one of the reasons our friend's been bringing firewood is because in past years I've gone out and cut firewood myself you know, and um, and our grandchildren and our son has brought us a load of firewood, and now my friend's been bringing a boot load every week for the last month or so, and he's offered to help anytime.

There was some variability across this group of older people about accepting physical assistance from, or asking for, assistance from friends. Some older people preferred not to have friends involved in providing practical help. They preferred to keep friendships on a social level. Others liked to ask friends for help, especially older men who required assistance with house and garden maintenance jobs. It was acknowledged that many older peer-age friends were not in a position to assist even if they wanted to, due to their own age and health status. Transport assistance from friends was common. Older people who were able to drive provided support to other older people who did not drive or were no longer able to drive. Importantly, transport assistance helped people stay connected socially. As Mabel (30:29) shared in her interview:

I've got a friend over the road, and as long as she's home I see her every coupla days. Um, friends from church, well, and one picks me up on Sunday so I see them weekly, and other friends at church and another, different one, picks me up on a <weekday> in the mornings, and we go into town to <place> for morning tea… although we have a cuppa after church, a few have to go for a number of reasons, so they decided to 'have a chat' at another time, so another lady picks me up and takes me into that, so you can catch up with people you don't get to talk to on Sunday… (friends happy to pick you up?) yes, which is great, thank goodness.

There was also evidence that poorer health could limit activities, however, a number of older people in this cohort had developed work arounds and different ways of staying in touch; for example, talking more frequently on the telephone or using ICT. In fact, telephone calls and ICT contact (texts and emails) were the main ways older people kept in touch with friends living in other communities. Weekly telephone calls or emails were common. Widowhood, or providing full-time care for a spouse, were also found to have impacted on social activities with friends. A number of older men had noticed some local 'couples' friendships had dropped off since widowhood.

> *You know, people used to say to me, if you're on your own you won't get invited to dinners and things like you used to and it's true! Couples get invited more than individual people.* (Thomas, 17:25)

In summary, older people in this network type had regular contact with local friends, and friends living further away (where they existed). There was variation in the level of physical assistance both given to, and received by, local friends. Some older people preferred to keep friendships focused on social activities and shared interests. Others were pleased to accept, or happy to ask for, physical assistance from friends, especially older people who were no longer able to drive, and older men who were no longer able to manage some household maintenance tasks alone. There was also evidence of some withdrawal from peer-age friends (still in married couples) for older men in early widowhood, but this behaviour was not reported by older women.

Neighbours

Neighbours were described as people who lived next door to older people, or for people living on rural properties, neighbours were sometimes more distantly located, but were the closest people available. Of particular interest in this study was the role of supportive neighbours, what tasks they were comfortable to do, and what social boundaries existed between older people and their neighbours.

For older people in this cohort, neighbours were known, and were often a source of regular social contact. Some neighbours were also described as friends, and daily contact was common. The types of conversations that took place between neighbours and older people varied depending on the interests of the individuals, but broadly included exchanges of people's family news (such as births, deaths and marriages), local events and community news. Sometimes items were exchanged, such as gifts of plant cuttings, home-baked goods or homegrown produce. There was clear evidence of older people themselves providing support to their neighbours. As Roy (25:09) explained:

> *I suppose our closest would be our next-door neighbour here, who we sort of keep an eye on because she lost her husband, and she's pretty frail herself, and in different health really and um, she's asked us to look out and make sure the dog's out in the morning, and that she hasn't died through the night sort of thing. <Roy's wife name> pops in three times a day to check on her, she's*

pretty lonely… <Name of other neighbour> she's very generous, very friendly lady. We share plants with her and she brings us 'goodies' every now and then.

In summary, contact with neighbours was frequent and neighbours were often considered friends. There were patterns of support and reciprocity with neighbours, but there was also evidence that support was given or received without any expectations of reciprocity. Due to their proximity, neighbours were easily accessed sources of company and social contact.

Conclusion to supportive relationships

Older people across this network type enjoyed frequent contact with local family, friends and neighbours, with regular social contact important for maintaining everyday lifestyles. There was evidence of both physical assistance and emotional support being provided by adult children (living close by in separate households), as well as grandchildren, siblings and other relatives including nieces (living locally or further away). Neighbours often looked out for each other and supported one another, and local friends were often connected to the same church or local community group. Some older people, usually those with longer term residency, also had the support of children of friends. There was some withdrawal from peer-age friends for older men in early widowhood (for example, a noticeable reduction in dinner invitations), but this was not evident for older women.

The key characteristics as described by Wenger about this network type, were found to be consistent with the findings in the East Gippsland rural cohort, in particular that this network comprised older people with active and supportive relationships with their locally based kin, especially their adult children. Older people were also found to have a large number of network ties and regular contact with local friends and neighbours. Neighbours were often considered friends, and support was readily available due to their proximity and established patterns of reciprocity. Adult children often knew the friends and neighbours of their older parents as they all lived in the same community. While many of the people in the study were older and widowed there were still similar patterns of social connection when compared to those that were younger and still married. Importantly, older people embedded within *locally integrated* networks had access to multiple sources of social support as a result of their broad range of active social relationships.

Neighbourhoods and community engagement

Introduction

This theme was focused on older people's experiences of community, their sense of belonging; levels of participation in local events and social activities; work, volunteering, and migration patterns in and out of the region.

Neighbourhoods and community engagement

People in this network type were found to be well connected across their neighbourhoods and enjoyed being involved in their communities. Younger participants were found to provide support to older neighbours and this was an acknowledged way of life; that is to say, you helped where you could, and one day you may be the recipient, rather than the provider, of assistance. As Eric (12:29) explained:

> *Older than us, but give them a hand with a few things. I just do a few things, like look after the trees just across the road, just little things… There's an old bloke down the road here that I help now and again in the garden and if anyone needs a hand, I give 'em a hand and stuff.*

There was a range of social interactions being experienced across this group. Some older people caught up with friends outside formal social or community activities, while others made new friends through their membership of clubs and organisations. There was a general sense that social connections were easy to make if you wanted them. As Eric found in relation to his experience playing golf (6:12):

> *I just drifted in, like a few of them, you just go in and start playing golf, and they say "do you want a game on <weekday> or <weekday>?" or something like that and you say "yeah", and it just evolves.*

There were a range of social clubs and activities mentioned by older people in this network type. They included: the University of the Third Age (usually known as U3A); Senior Citizens Clubs; Bowls Clubs; Table Tennis ('*Keenagers*'); Indoor Bowls; Billiards; Art Classes; Exercise groups; Sewing groups; Yoga; Garden Clubs; as well as Golf Clubs and volunteering with the local Visitors Centre. There was also regular attendance at religious service and events by nearly half of all older people in this cohort, although some people attended congregations outside their local communities, and therefore, contact was different or less frequent compared to others who attended a local church.

> *We don't do a lot with them except on Sundays because they're too far away, and they have lots of activities going on down there but we don't get to because of the distance, but um, they're really, really, friendly people, and about our age … we keep in touch with some of them on Facebook as well.* (Roy, 30:18)

There was also evidence of connections to the places where people lived. Many older people had moved away and lived in other Gippsland communities (as well as Melbourne and other places further afield) for a time following work and marriage. However, they typically had a family connection to the area, or had returned to towns and communities based on earlier life experiences. For newly migrated older people from smaller communities or farms, there was an acknowledgement that they had moved to larger towns to be closer to facilities and services as they aged. So, in addition to living closer to children and grandchildren, a number of older people found themselves living closer to peer-age people known to them.

> *We're not the only ones doin' it either. There's quite a few, from that <name of area>, that have moved down here over time, for the obvious reason … thing is a lot of people have shifted down here, so like, a lot of people know each other. They're coming down here <from area> because they know of people or know people. You'd be surprised, met up in the street, and that. It makes you feel more comfortable when you know people.* (Eric, 20:57)

In summary, older people were often settled in locations where they had lived all their life or they had moved in early retirement to places with a combination of family members, old friends and other people known to them. Older people were engaged in various social activities and social groups across their communities including attendance at religious services and events. Older people spoke about a sense of belonging within their communities and were often active in providing or receiving local support within their neighbourhoods.

Being alone

This sub-theme explored levels of emotional self-sufficiency - the types of home-based activities older people enjoyed, as well as older people's experiences of loneliness (if this existed).

Due to the proximity of family and friends, older people in this cohort tended to spend a lot of time with others by preference, and more limited time being alone. Loneliness was not

apparent in this group of people, despite the adjustments that needed to be made following the loss of a spouse. Many older people attributed this to the care they received from their family and friends, particularly, the attentiveness of adult children.

> *I'm not lonely but I would guess that if my family weren't as attentive to me as they are, I prob'ly would be. I mean I get so much love and care from my family, that I'm quite happy. In fact, they've all just gone home this morning, had a mob here yesterday, and I think today, I'll just do nothing, sit on the veranda here (laughs).* (Thomas, 29:06)

A number of participants spoke about the things they do to occupy their time when they are alone. A number of older people had pets, or had previously owned pets, which provided both enjoyment and regular daily walking routines. Some older people spent time on their computers looking at information on the internet, emailing family and friends, but also playing computer card games. Other commonly mentioned pastimes included listening to music on the radio and watching television.

> *I don't do much. I watch the telly. I love the footy in the winter. And ah, I love me fire, the 'Coonara' there, it's real good company. I find it, yeah company, it's a funny thing, but how you could have company out of a fire, but I just love it.* (Thomas, 26:23)

> *Well, yeah, I usually have music on, and um I tend to like noise. Whether it's from having, um a reasonable family or what, but I just like music and usually have the radio going, and when the radio goes off, the telly goes on. I don't usually sit and watch the telly all day, but only if the cricket's on. I like the cricket.* (Mabel. 38:55)

> *I suppose, mostly the computer has taken up a lot of my time. I get a lot of enjoyment out of that, so, downloading articles and emails and that and things like that. Play an odd game or two (chuckles), 'FreeCell' is my favourite. <My wife> likes Sudoku.* (Roy, 41:04)

In summary, people in this network type did not experiences high levels of loneliness and had a variety of home activities they enjoyed when they spent time alone.

Conclusion to neighbourhoods and community engagement

People in this network type experienced a strong sense of belonging within their communities. There were higher than expected levels of migration but connections to place were evident. Older people who had migrated into the area had often come from smaller towns or off farms within the East Gippsland region. There was also evidence that some older people had returned to communities they had grown up in or where they had visited grandparents in early life. There was robust participation in a variety of social activities, and attendance at religious services and events was fairly common. Older people were typically both receiving and providing assistance to others within their community. There were low levels of loneliness across this network type.

Accessibility

Introduction

One of the key themes that came out of this study related to access to services and community activities. There were a number of factors identified that impacted access, including:

- the availability of services;
- having the skills to find services and coordinate them if required;
- having the financial security to be able to purchase services;
- motor vehicle driving or the availability of public or community transport;
- being able to manage chronic disease at home; and
- access to medical and specialist care as well as the financial security (including access to health insurance) to be able to access that care if needed.

Therefore, the presentation of qualitative data in this section uses three key sub-themes: paying for support, including preferences for paid services and types of paid services commonly accessed; older people's experience of motor vehicle driving or not driving; and finally, access to medical services, including access to both general practitioners (GPs) and specialist care.

Paying for support

This sub-theme related to access and preferences around paying for services and care.

Older people in this network type did not frequently pay for household and garden services but were comfortable asking for, or accepting offers of, assistance from friends and family when they experienced deteriorating health or strength. It must be noted that while this study did not seek financial information from people, most older people communicated that they were financially able to pay. That is, if the help they currently received from family and friends was withdrawn, they would be in a position to pay for these services. As Roy (59:06) explained:

> *Our friends know we could afford to pay, but we don't like to if we can help it, so they are happy to come and help me. And my family have really stepped up since my health has become worse and they insist on helping really.*

The most common jobs older people did pay for related to heavy tasks around the garden, and household maintenance jobs that required professional trades services, such as plumbing or electrical jobs. As Eric (18:34) explained in his interview:

> *Well, we've got, ah, friends, or son, he's a big strapping lad, so like I never had any, so far, ah, I'm not restricted. But if I had to, I'd just pay someone to do it if it's beyond my capability. Not, ah, well, physical capability, I'm pretty good but if it's anything well, out of me own abilities, well to do things, like well we had a bit of landscaping to do down there (points), and like I'm not bad at some things but we paid someone to do it to get a better job done.*

In summary, older people in this network type were comfortable to ask for and accept assistance from family and friends for some household and garden maintenance activities. In some cases, there were preferences to pay for services, particularly to achieve a more professional result.

Motor vehicle driving

This sub-theme related to driving independence and reliance on others for transport. It also covered key aspects about people's experiences of public and community transport (where it existed).

Maintaining driving independence was seen as a reflection of maintaining independence more broadly. Interestingly, while older people were happy to accept assistance with a number of activities, transport assistance was viewed as more problematic, largely due to the

inherent nature of transport to independent choices and actions. However, there was also broad acceptance across the cohort that at some point people would have to stop driving.

> *I admit that one day I'll have to stop driving but it's a fear. I'm goin' to absolutely hate it. But I'm not alone.* (Thomas, 57:23)

However, it was clear from earlier discussions about the role of family and friends that access to transport did exist. Older people who were unable to drive were supported by family and friends to get to the shops for necessities such as food and clothing, but also just as importantly, to get to social activities and functions so they could remain involved and connected socially. For those that lived in towns motorised scooters were also used and provided a degree of independence to the older person.

In summary, while driving was viewed as an important component of remaining independent, it was clear that people in this network type had access to social transport through multiple sources.

Access to Medical Care

Not surprisingly, one of the common subthemes regarding access to services in this research related to access to medical care - general practitioners (GPs), the GP of choice, and medical specialists. This section presents findings about older people's experiences of access to medical care; how far people had to travel to access medical care and the implications of access to medical care on their ability to manage chronic illnesses at home. For some older people there were greater choices available due to their access to information, skills to find services and coordinate them if required, as well as having the financial security (including health insurance) to be able to access care or purchase more expensive medical services.

Some of the reasons for moving from smaller communities into larger towns and the regional centre of Bairnsdale related to the provision of services and support to stay living independently at home. It was acknowledged that for major health issues, travel to Melbourne was required, although it was also noted that health assessments were increasingly being done by teleconferencing, and that there seemed to be a growing number of specialist outreach services available in the area. Access to a General Practitioner (GP) of choice was mentioned as particularly challenging.

> *Health care is a major problem. Hospital lacks competent diagnostic persons/specialist and equipment. Therefore, travel out of*

town/accommodation/time is costly. This local hospital lacks funding as it supposed to support hundreds of square kilometres (300 km to the border) but doesn't. Lack of General Practitioners - up to 4 weeks to see your own doctor. Specialists in general are inclined to travel to Bairnsdale to consult.
(Male respondent #296, aged 75 years)

A number of participants had firsthand experience of the health system from nursing their spouses prior to their deaths and were aware of many of the types of services that existed. In particular, older people had siblings or friends on support packages re living at home. The oldest participants were managing their health issues at home with the support of families. One of the criticisms aired by this group of people related to the level of services offered, and that some services were put in place much later than they should have been.

I've got a sister-in-law that lives in Melbourne… and she gets fantastic help, she's on packages, provide her with taxis to go to the doctors, I don't know how she organises it all, she has someone coming in every day, every day! The care doesn't seem to be offered, you have to seek it, you have to go looking, she's gone out to seek it. I think that's wrong; it should be offered to older people. It's out there but you don't know about it. Someone should be telling them, the doctors should be telling them, someone. (Thomas, 47:42)

There was also some reluctance across this cohort regarding the prospect of having to move into aged care, partly from experience or the recognition that 'things' would be different. For many, there was the confidence that their adult children would let them know when they thought it was the right time to make such a significant move. For one or two respondents, siblings who provided regular support were also conduits for these types of conversations. As Mabel, (35:42) explained:

No (chuckles), don't even think about it. My sister who gives me a hand now and again, ah only a few weeks ago she said, "you know, it's time you thought about downsizing", but I said "I'm not ready to do that". You know I'm not even ready to go into um, I don't even want to go into, they've got a retirement village over in Eastwood. I mean you're living in each other's pockets and I couldn't stand it. I don't know, I don't even want to think about what I'll do when I can't walk anymore. I'll end up in a nursing home and I don't want to go there (chuckles) so I just don't think about it.

In summary, older people in this network type had multiple sources of help to manage varied medical conditions and were able to stay living at home with social support well into older age. It was also clear that they had multiple social support resources to access medical care, including transport, and were only likely to move into care facilities once their care needs exceeded the capacity of their social support network.

Conclusion to Accessibility

Older people in this network type typically preferred to secure some help from family and friends rather than paying for services, even when this was affordable. However, for some services that required professional trades expertise, older people were generally in a position to pay for those services. While driving was viewed as an important component of remaining independent, it was clear that people in this network type had access to social transport through multiple sources. The most common concern about losing a driver's licence was around convenience and choice; the ability to just get in a car and go. For older people who no longer had a driver's licence there were often multiple persons available to provide transport assistance. Importantly, friends were often available to drive the older person to social functions, helping them to remain socially connected with the usual activities and outings.

Finally, older people in this network type had multiple avenues of social support to manage varied medical conditions and were able to stay living at home well into the oldest ages. It was also clear that there were multiple social support resources for access to medical care, including transport, and older people were only likely to move into care facilities once their care needs exceeded the capacity of their social support network.

Conclusion to the lived experience

Older people across this network enjoyed frequent contact with family, friends and neighbours. This regular social contact was important for maintaining everyday lifestyles. There was evidence of both physical assistance and emotional support being provided by adult children living close by but in separate households; and by grandchildren, siblings and other relatives including nieces locally based and living at distance. Neighbours often looked out for each other, and there was a strong sense of duty about caring for more 'elderly' neighbours. Friends also usually lived close by and were often part of the same church congregation or local community group. Some older people, usually those with longer term residency, also had the support of children of friends. There was some withdrawal from

peer-age friends for older men in early widowhood (for example, a noticeable reduction in dinner invitations), but this was not evident for older women.

People in this network type experienced a strong sense of belonging within their communities. There were higher than expected levels of migration, but connections to place were still evident. Older people who had migrated into the area had often come from smaller towns or off farms within the East Gippsland region. There was also evidence that some older people had returned to communities they had grown up in or where they had visited grandparents in early life. There was robust participation in a variety of social activities, and attendance at religious services and events was reasonably common. Older people were typically both receiving and giving support to others in their community. Older people in this network type did not experiences high levels of loneliness and had a variety of home activities they enjoyed when they spent time alone.

Summary of locally integrated support network findings

The key characteristics as described by Wenger about this network type, were found to be consistent with the findings in the East Gippsland rural cohort; in particular, that this network comprised older people with active and supportive relationships with their locally based kin especially their adult children. Older people were also found to have a large number of network ties, and there was regular contact with local friends and neighbours. Neighbours were often considered friends and were available to provide support if required due to their proximity. Adult children often knew the friends and neighbours of their older parents as part of living in the same community. While many of the people participating in this research study were older and widowed, there were still similar patterns of social connection when compared to those who were younger and still married. Importantly, older people embedded within *locally integrated* networks had access to multiple sources of social support as a result of their broad range of active social relationships.

Reciprocity was common in the supportive relationships of *locally integrated* older people. In other words, older people tended to help each other, irrespective of age or personal circumstances. However, there was clear evidence from the interviews that with decreasing mobility or functionality in later life, reciprocity was not actually required, and older people continued to receive support from across their social support network whether they were able to reciprocate or not. For people in this network type helping each other appeared to be more a way of life; that is, people helped each other while they were able to, then when it was no

longer possible to reciprocate or provide support to others, support would continue to be available. This reflects the effectiveness of building social capital over the life course.

Older people in *locally integrated* support networks were also found to receive more than one type of support from others. Locally based adult children often provided physical help (e.g., with household and gardening jobs) as well as emotional support (e.g., listening to problems and offering advice) as well as being an important conduit for social activities (e.g., spending time together). In this network type friends and spouses also often played shared roles, both helping with physical jobs (such as being the designated driver when driving became limited or no longer possible), as well as a being a social companion in activities or shared interests. However, widowhood for older *locally integrated* people did not see significant changes in lifestyles with the high levels of social support available. Older people were only likely to move into care facilities once their care needs exceeded the capacity of their social support network, which were often shown to be considerable.

The Local Self-Contained Support Network

Introduction

The Wenger *local self-contained* support network is characterised by its 'self-contained' household focused nature (Wenger, 1991, 1994). Older people are often long-term residents who have regular contact, but undemanding relationships with local kin and neighbours. Self-reliance is important to older people in *local self-contained* support networks. Wenger (1994) found that statistically, older people in this network type were the most likely to be childless or single and to be living alone.

The *local self-contained* support network in the Australian data was one of the two smallest networks in the Australian *Wenger Support Network Typology*, (11%, n=41). The key network characteristics of the Australian *local self-contained* support network are presented through, both a quantitative data analysis, and a discussion of key themes from the study's thematic analysis. A summary of key findings concludes this section. Please note that all network frequency data and all tests for independence are presented in tables in **Appendices 25 and 26.**

Identifying key network trends

Participation in formal social or community activities was found to be wide-ranging, with 29% of older people participating regularly, 34% occasionally, and 37% of older people not

participating at all. Despite larger towns providing more opportunities for such participation, the levels of engagement for *local self-contained* respondents in mid-sized or smaller towns followed similar patterns (χ^2 (2,40) = 0.702, p = .704). In fact, this pattern of community engagement was also found to be independent of age, health status and length of residency (χ^2 (1,41) = 0.644, p = .422); χ^2 (1,41) = 0.360, p = .548; and χ^2 (1,41) = 0.146, p = .702 respectively). That is, respondents who were older or in poorer health were just as involved in social clubs and other community activities compared to respondents who were younger, or in good health, and long-term residents were not found to be more engaged than respondents who had settled into the area more recently. Further analysis revealed that this varied pattern of social engagement was also independent of gender, marital status and living arrangements (χ^2 (1,40) = 0.825, p = .364; χ^2 (1,41) = 2.035, p = .154; and χ^2 (1,36) = 0.169, p = .681 respectively), suggesting that involvement in social and community activities (or not) was a deliberate choice by older people in this network type.

There was also a measurable level of migration found across this network type. More than half of this cohort of older people (57%) had lived in the area for less than 25 years. Further analysis confirmed that both gender and marital status were not influential on length of residency (χ^2 (1,40) = 0.021, p = .884 and χ^2 (1,41) = 0.396, p = .529 respectively). While more participants in this network type were married (61%), there were also older people who had never married (10%), or were not married (10%) or were widowed (29%). Therefore, unsurprisingly, a large proportion of older people in this network type lived alone (42%). Interestingly, migration patterns did not favour one type of community over another, with older participants found settled in Bairnsdale, as well as mid-sized and smaller towns in similar numbers (χ^2 (2,40) = 0.778, p = .678). While there was a higher proportion of older women compared to older men (57% versus 43% respectively), gender was not found to be an influential factor on where people lived (χ^2 (2,39) = 3.085, p = .214).

Local self-contained respondents had regular contact with both friends and neighbours. The frequency of contact with neighbours was wide-ranging with 51% of older people seeing their neighbours ‘at least weekly’ or more often, while 49% only saw neighbours ‘at least monthly’ or less often. Interestingly, this pattern of contact was not influenced by length of residency (χ^2 (1,41) = 0.019, p = .890); that is, older long-term residents did not have more or less to do with their neighbours compared to newer residents. Other demographic variables such as age, gender, marital status, living arrangements or health status were also not found to

be influential (χ^2 (1,41) = 1.172, p = .279; χ^2 (1,40) = 0.921, p = .337; χ^2 (1,41) = 1.977, p = .160; χ^2 (1,36) = 1.029, p = .310 and χ^2 (1,41) = 2.046, p = .153 respectively). Contact with friends was found to be more frequent than contact with neighbours, with 63% of older people seeing friends 'at least weekly' or more often. Again, there were no distinguishing demographic features such as length of residency, age, gender, marital status, living arrangements or health status in these patterns of contact (χ^2 (1,41) = 1.073, p = .300; χ^2 (1,41) = 3.349, p = .087; χ^2 (1,40) = 0.171, p = .680; χ^2 (1,41) = 2.035, p = .154; χ^2 (1,36) = 0.655, p = .418 and χ^2 (1,41) = 0.007, p = .934 respectively). Given the wide-ranging levels of community participation but the frequency of contact with friends, many older people in this network type appeared to prefer to spend time with friends outside formal social group settings.

There were also varying trends in the frequency of telephone calls and ICT use with friends. A high proportion of older people spoke to friends 'at least weekly' or more often (61%), while ICT use varied, with nearly one third of older people not using ICT at all (30%) through to 40% using it weekly or more often. Perhaps not surprisingly, older people aged less than 75 years were found to be more frequent users of the telephone and ICT when compared to people aged 75 years and older (χ^2 (1,41) = 8.050, $\mathbf{p = .005}$ and χ^2 (1,40) = 5.017, $\mathbf{p = .025}$ respectively). Long-term residents, that is, those that had lived in the area for 25 years or more, were also found to speak more frequently to friends on the telephone compared to older people more recently settled across the East Gippsland region (χ^2 (1,41) = 6.740, $\mathbf{p = .009}$). Again, this data finding was not surprising given that older people with longer-term residency were more likely to have lifelong friends living in the area.

Finally, nearly all *local self-contained* respondents had at least one relative living locally (98%), despite the levels of migration found in this study cohort. Most respondents were parents (93%), although 7% were childless. Many older people still had living brothers or sisters (88%), and approximately half of participants lived in proximity to siblings (51%). The closest relative typically lived more than ten kilometres away, so face-to-face contact with relatives tended to be weekly or less often, except for people who were 75 years and older. They saw their relatives more often (χ^2 (1,41) = 4.490, $\mathbf{p = .034}$). The majority of older people spoke to a relative on the telephone at least weekly or more often (81%). In fact, 20% of this group spoke to their relatives on a daily basis. Interestingly, this time it was participants aged 65 – 74 years who spoke more frequently to their relatives on the telephone

(χ^2 (1,41) = 3.848, ***p* = .050**). Further analysis revealed that contact by ICT was also fairly frequent, with older people texting or emailing relatives at least weekly or more often (58%). Age was not found to be a barrier regarding ICT use with relatives (χ^2 (1,40) = 0.614, *p* = .433).

Conclusion to descriptive statistics

Older people in this network type typically had at least one relative living in proximity, and 'at least weekly' contact with locally based family, friends, and neighbours was the most common frequency of contact. Perhaps unsurprisingly, older people aged 75 years and older generally saw their families more often than people aged 65 – 74 years. However, telephone calls and ICT use with family and friends occurred at least weekly or more often across all age groups. Participation in social groups and community activities was wide-ranging. with similar numbers of respondents participating regularly or not at all. This difference in participation levels was not found to be influenced by length of residency or by any other demographic variable available in this study such as gender or health status. Of note were the levels of migration found across this network. Nearly half of all older *local self-contained* participants had settled in one of the East Gippsland study locations within the last 25 years.

Key characteristics in the Australian *local self-contained* network consistent with the Wenger definition so far included, the proximity of relatives, the high levels of older people living alone, and regular contact patterns with locally based family, friends, and neighbours. However, there were also some key differences. The level of community engagement was found to be moderate to rather than low, with more than half of the cohort participating regularly or occasionally. Migration into the area was also high rather than low, with approximately half of all older people having moved into the area within the last 25 years. These similarities and differences will be explored in the qualitative phase of this research.

Exploring the lived experience

The presentation of the qualitative data collected from older people in this network type, in accordance with themes generated from the study's thematic analysis, comprises the lived experience. This data enabled greater visibility of people's day-to-day lives, enabling further exploration of the key Wenger characteristics of the *local self-contained* network.

In the East Gippsland sample, the *local self-contained* network comprised 41 people. A total of 13 valid comments (averaging 34 words) were provided via the research questionnaires,

and five older people were interviewed. The key demographics of the people interviewed can be found in Table 6.2.

Key findings from older people's lived experiences are presented through the three main themes of the thematic analysis: Supportive Relationships; Neighbourhoods and Community Engagement; and Accessibility.

Table 6.2: Key demographic data for interviewees in the *local self-contained* support network

Interviewee *pseudonym*	**Age**	**Community**	**Length of residency**	**Living arrangements**	**Marital status**	**Health status**
Christine	67	Swan Reach	25 years +	Spouse	Married	Good
Janet	69	Swan Reach	25 years +	Spouse	Married	Good
Andrew	69	Paynesville	< 25 years*	Alone	Not married	Poor
Robert	71	Swan Reach	25 years +	Spouse	Married	Good
Elaine	79	Bairnsdale	< 25 years	Alone	Never married	Good

* *Lived in current place of residence less than 10 years*

Supportive relationships

Introduction

One of the important themes in this study related to the role of supportive relationships and who shared supportive relationships (or not) with older people. These relationships included giving or receiving one or more of the following: physical help, emotional support, affection and intimacy, companionship, friendship, filial duty, or moral obligation. Relationships with spouses/partners, adult children and other relatives, friends, and neighbours were included in this study. Supportive relationships with adult children, grandchildren and other relatives are presented within the subtheme of *families*. Experiences of supportive relationships with both *friends* and *neighbours* are presented in separate subthemes. Supportive relationships of an intimate and personal nature are explored under *intimate relationships*.

Intimate relationships

The role of supportive intimate relationships was explored as part of this research, including the roles of spouses and partners, as well as the loss of these types of relationships for those who were widowed. In this network type, there were also older people living alone who had never married or were divorced and were not seeking to establish intimate relationships. Spouses and partners enabled older people living with chronic illness to remain living in their

own homes. They provided both companionship and support with household tasks such as cooking, cleaning, gardening, and shopping for food. A number of older people also spoke about their enjoyment of the company of their partners, whether that was related to the types of conversations they had, sharing the experiences of travelling, or simply sharing meals together with friends. For older participants who relied on their spouse for support, the loss of that person would see older participants moving from their existing place of residence. As Christine (7:56), who lived with a chronic illness, explained:

> *No, just my husband (I would turn to if I needed help)… I mean, the kids, if they're doing a pile of cooking or something, and would quite often do, you know, like extra lasagnes and that, and put them in the freezer and say, here Mum, take these home with you (chuckles) thank you very much! That's nice, and it gives him, <husband's name>, a day off. So, <husband's name> does all the work, basically all the housework and all the cooking and everything. He is excellent, he is excellent.*

In summary, intimate partners were often considered companions, an important supportive role for older people with more limited social contact outside the home. For older people in poorer health, spouses and live-in partners often contributed to or fully managed the day-to-day activities that enabled the maintenance of lifestyle preferences at home. In this network type, widowhood was found to have a profound impact on older people.

Family

This sub-theme relates to the roles of adult children, siblings, other relatives, intergenerational relationships with grandchildren, and for people who were not parents, their experiences of support with other relatives including nieces and nephews.

For many older participants who were parents, family members provided enjoyment and companionship, especially grandchildren. A number of older participants provided regular childcare to their grandchildren to support their adult children in paid work. The most common childcare commitments were more than once a week, for several hours at a time. Older people broadly welcomed the changes that came with the arrival of grandchildren because they often included having more regular contact with their adult children.

> *Think two to three times a week is generally right. We had <name of grandson> in this morning, he's our grandchild and we have him two mornings a week, and*

> *he's coming back afterwards because they're going to set up our new computer (laughs) and um, yeah so <daughter's> partner is going to do that for us, and then um, at least two or three times a week if not more.* (Janet, 5:57)

For those with adult grandchildren, visits were also common. It was also clear to see that there were relationships of affection and companionship. Given the prevalence of caring roles across this cohort among older people with younger grandchildren, it could be suggested that older people established social capital with grandchildren when they were younger.

In addition, one of the clear patterns to emerge during the interviews was that older people did not appear to have any expectations of either adult children or adult grandchildren in relation to household support or personal care. In fact, at some point during the interview, all of participants in this network type mentioned that children and grandchildren were busy with their own lives and they helped if they could; support appeared to be available when it was requested. As Christine (30:10) explained,

> *I seem to get by, don't know how but I do it. Every year gets harder though. The kids will come down, the girls, if we want, and give us a hand. And a couple of times, I wanted something done in the house when I couldn't reach things and, um, I've got the grandkids out … We've got a couple that come out fairly frequently, both <name of grandchild> and <name of other grandchild> come out often and stay a night or two and go fishing.*

This sense of being selective in seeking help and not intruding too much on children's and grandchildren's lives and interests was also extended to siblings and other family members. As Elaine (4:30) explained, she lives in proximity to her siblings, but they don't see each other all the time:

> *Two brothers and a sister. Yeah, we all moved up here, all, sort of, retired in this area, yep… we see each other, well um, a bit more often recently since my brother's sickness and death, but yeah, about monthly, about that, we're not in each other's pockets, yeah. I'm not a chatter (laughs). No, well I have to ring about something ... I don't ring to have a chat. No, I don't email them, my brother and sister.*

Like Elaine, a number of participants indicated they did not like to spend a lot of time on the phone unless it was to make arrangements for something. However, for others, telephone

calls were an enjoyable way of staying in touch, particularly with family and friends living at a distance. The difference found in telephone call frequency and the use of ICT with family members tended to be related to the strength of relationships and personal circumstances. For example, the two people interviewed who were living with chronic illness had daily texts or phone calls with adult children, while for older people with multiple siblings, there was often one sibling with whom there was more frequent contact. The siblings with whom there was more frequent contact were often considered 'confidants', and it was generally acknowledged that these were mutual relationships in which confidences were exchanged and shared. Importantly, while a sibling, often a sister, was considered an important person to confide in, adult children and adult grandchildren were not generally found in this role for older *local self-contained* participants, even when older people had limited sibling resources within the family.

> *I really haven't got anybody that I would contact. Other than a professional. My daughter has her own problems, um, so I don't burden her with any of mine, not that I have any, particularly.* Andrew (13:58).

In summary, older people in this network type had regular contact with families, but there was respect for people 'living their own lives'. Older people who were grandparents and in good health were often involved in regular caring activities with grandchildren and generally saw more of their adult children following the arrival of grandchildren. Social support with older grandchildren was also in place, suggesting there was social capital in these relationships built earlier in life. A number of people in this network type indicated adult children had returned to the East Gippsland area to work following tertiary education or having their own children. Importantly, there was evidence of the 'undemanding' relationships that Wenger found in the way older people interacted with their families. That is, older people and their families appeared to help each other because they wanted to, not because it was expected.

Friends

This section presents the findings on the supportive role of friends and what support looks like and what it doesn't look like.

Older people in this network type tended to have only a small number of good friends with whom they maintained regular contact. These were often friendships that had developed over the life course; that is, friendships made at school or university, or earlier in life through

work. For older people who had migrated into the area, either pre-retirement with children or post-retirement without children, at least one good friend lived at distance so telephone calls and texting were common.

> *I have a really good friend of 60 years standing that I chat to regularly on the phone, but he lives a long way away, yeah, hmm, but that's the only person I chat with. I've got some good friends, but I'm terrible, I don't get on the phone and talk to them, no. And I talk to him on the phone, yeah (laughs), I can't email, he doesn't have a computer. He's a retired <occupation>, it was difficult <in early post-retirement> but he's ok now.* Elaine (5:20)

Health limitations were also reasons for speaking on the telephone rather than visiting in person. For example, both of Christine's friends were in poor health and unable to move about the community much, and with Christine's chronic illness, she also preferred to talk over the telephone rather than visit in person. Due to her past occupation, she was also considered an important source of clinical information. As she (9:38) explained:

> *I've got one friend that rings every day, yeah, actually, there's two friends that ring every day, so, which is sometimes a bit awkward, but, what can you do… because they often ring me because um, when they want to know something, Um, because I was also a <clinician> so, um, "oh do you think I should do this?" oh, urgh, (chuckles), "I don't know, it was twenty years ago, its changed" (laughs).*

In summary, older people often visited their friends, or their friends visited them at home. Many older people spoke to their friends regularly on the telephone. Texting had become a regular communication tool for some people, but not for others. Some friends were neighbours, but due to the migration patterns of this group of people, older people often had friends in other communities. Regular contact with 'at distance' friends was maintained, although 'regular' could mean every few weeks or only every year. Sharing information, giving and receiving advice, and talking about current issues were all enjoyable conversations with friends.

Neighbours

Neighbours were described as people who lived next door to older people, or for people living on larger properties, neighbours were sometimes more distantly located but were the

closest people available. Of particular interest in this study was the role of supportive neighbours, what tasks they were comfortable with, and what social boundaries existed between older people and their neighbours.

Neighbours were found to provide all sorts of social support to *local self-contained* participants, such as helping with gardening, or driving older people to medical appointments or to the shops for weekly food shopping. Older people had often built friendships, or even family-like relationships, with people living nearby in their communities. For example, Janet had befriended an older neighbour and over time this had moved into a mother-daughter relationship. As she (8:16) explained:

> *… the only one of my dear friends who I catch up with daily, and SMS almost daily, is Joan, who is my older friend who I do gardening for her and I keep in touch with her. She also has family here but she seems to value my, um, contacts, um so I just keep doing it… she's like a surrogate Mum to me so it's really nice, it's lovely to have that relationship.*

It was also interesting to find that many of the neighbourly relationships that had evolved into friendships across this network were based on reciprocal arrangements where physical support was exchanged for emotional support or advice. For Elaine, who had never married, or had children, neighbours were an essential part of her social support network but following the deaths of three of her neighbours and the migration of another neighbour, in recent years, key social support has been lost. As she (15:45) explained:

> *When I first moved here, there were some beautiful neighbours, <name of person> next door and <name of person> up the road and her son, he became my handyman, and <name of person> over the road, an old lady that I visited regularly and had a chat and a cup of tea. But then <name of person> died, <name of person> died, <name of person> died and then <name of person> found the love of his life and moved away um, so we had a lovely neighbourhood until a few years ago… I don't know half of them, but there's, a really lovely person has moved next door and we get on really well, yeah, but I don't know who lives anywhere else, I don't know any of the other people, Hmm. Yeah, it can all change… I miss them, I miss them… I see <name of person> in town from time to time.*

Finally, neighbours were considered part of the social fabric of people's lives. Living in a smaller community, Robert and his wife knew about half a dozen families in the neighbourhood well, and they sometimes met for dinner at each other's homes.

In summary, neighbours were often an important part of older people's lives, and for some, they were also friends they saw regularly. Neighbours were found to provide key support for some older people with regular assistance for shopping or getting to medical appointments. All older people knew their neighbours, and it was generally acknowledged that they would all provide assistance to each other as necessary.

Conclusion about supportive relationships

Older people in this network type both gave and received support from their adult children, friends, and neighbours. Older people who were grandparents and in good health were often involved in regular caring activities with grandchildren, and generally saw a lot more of their adult children following the arrival of grandchildren. Social support with older grandchildren was also in evidence, with young people returning to the East Gippsland area to work following tertiary education or having their own children. There were a few good friends who were often considered 'neighbours from around the corner' because they lived in the same neighbourhood. Friendships were often long-term relationships started earlier in life, and telephones and ICT were found to be important tools to keep in touch. Spouses and partners were key providers of support and companionship. Importantly, relationships were considered 'undemanding' and there appeared to be no expectations of support, although support was often available and was gratefully received.

Neighbourhoods and community engagement

Introduction

This theme was focused on older people's experiences of community, their sense of belonging, levels of participation in local events and social activities, work, volunteering and migration patterns in and out of community.

Neighbourhoods and community engagement

Many of the older people in *local self-contained* networks were involved in their communities but not through social clubs or groups that were focused on social events. Contributing to local community activities, volunteering and being part of groups that were

active in caring for the land, was common. This was particularly important for older people who had migrated to the area.

> *Bird watching every week and bush walking every month. I am at <name of organisation> every month, but that's excursions, but I'm on committees, um, that, so I meet you know, there are two <name> committees a month. and I am on a land care committee and there's a lot of things happening, so we're meeting on an adhoc, but regular basis at present, there's a whole lot of issues that we're dealing with, so it's been busy lately, yeah. Meetings at short notice, and documents by email, and yeah, flat out at the moment.* Elaine (11:14)

> *We go to the land care group and we are in 'friends of the Gippsland Lakes' … and the Gippsland environment group. They're monthly, and the < another group> just when we need to which is a more sensible way to do it. <Monthly meetings> come around very fast… like Christmas (chuckles).* (Robert, 31:52)

There was also the notion that social activity groups on offer are not suitable. Christine felt too young for social activity groups as she (17:35) explained:

> *It might sound crazy, but I still feel too young (laughing) to join the senior citizens. A lot of those people were there when my parents were alive. And a lot of them too, I would see as a <clinician>, and don't know, don't like to mix, mix. Anyway, I did heaps of that when I was younger and you burn out. I was on the local hall committee, the school committee, the parents club … I don't regret any of it, I had fun doing it all, but I think it gets to a stage where it just gets to the end and you think, no, I will, I will get a bit laid back now.*

Not all recreation and lifestyle needs were able to be satisfied within the local community, and older people in this network type, especially those that had migrated to the area, also participated socially outside their local community. They spoke about traveling to Melbourne to attend the theatre, or to meet with friends.

> *I like going to Melbourne, really like good theatre and film. But it's getting a bit tiring now, going up and down in one day… I thought this through when I retired. I don't want to move again, like go back to Melbourne or anything like that, um, I don't like Bairnsdale, I think it's a <negative adverb> town really, but I love East Gippsland… The limitations of Bairnsdale would not force me*

> *to another place to live … Bairnsdale's got all the services I sort of need but hasn't got, well, there's no culture, no intellectual stimulation and I need that.* (Elaine, 20:05).

In summary, many older people in this network type had either grown up in the communities where they lived or they had purposefully chosen the area, primarily to give something back to the rural environment. People in this network type were more involved in community activities that were more civic minded rather than socially active. Participation was deliberate and older people wanted to achieve something. A number of people in this group had assumed 'professional' roles within organisations due to their skills and work experience prior to retirement. There were high levels of education amongst the older people interviewed.

Being alone

This sub-theme explored older people levels of emotional self-sufficiency; the types of home-based activities enjoyed as well as older people's experiences of loneliness (if they existed).

Older people in this network type enjoyed spending time alone and, importantly, acknowledged that they rarely got lonely. They were found to be regularly occupied in household activities or hobbies, both sedentary, such as reading, listening to music, doing crafts, or watching movies, and more active, such as gardening, bird watching, playing musical instruments, or walking.

> *… I live isolated in a mud brick house in the middle of the bush, electricity from an old standalone solar system. Wash by hand, split wood etc.… I am happy by myself. If I wish company I can drive out and visit. I am busy never bored. Got books, DVD, CD, computer, TV, Kindle and Gardening …* (Female Respondent #456, 69 years)

There was also a clear desire to spend time alone, with people speaking about themselves as "loners" or "hermits" and their preferences for being alone.

> *I don't do much, I'm pretty much a hermit. So don't do much and don't go anywhere. Pretty happy with my own company actually.* (Andrew, 34:31)

For those in couples, like Robert and Janet, they acknowledged that their spouse was more socially active, and some of the social activity they participated in was generated by their spouse; that is, if left to their own devices, they would be less socially active. For example,

Robert indicated that he would have been happy to have been a "lighthouse keeper if such things still existed, as he finds it "a bit of a grind to socialise." It was also noted that many of the people interviewed also enjoyed the company of a pet dog.

In summary, older people were happy with their own company and enjoyed many individual pastimes like reading or craft activities as well as more active pastimes like bushwalking. There were low levels of loneliness found across this network type.

Conclusion to neighbourhoods and community engagement

The wide-ranging levels of community participation found in the quantitative data were more fully explained by the qualitative comments and interviews. Some older people were more home-based, enjoying their own activities and keeping in touch by telephone with family and friends. However, the older people more involved in their communities were less socially active and more civic minded. They were often involved in Landcare groups and were interested in participating in community activities that improved the land or the local area. Older people in this network type knew their neighbours and enjoyed the sense of belonging in their communities. Social activities with neighbours and local friends tended to be focused around meals and get-togethers in people's homes rather than in formal settings.

Accessibility

Introduction

One of the key themes that came out of this study related to access to services and community activities. There were a number of factors identified that impacted access, including:

- the availability of services;
- having the skills to find services and coordinate them if required;
- having the financial security to be able to purchase services;
- motor vehicle driving or the availability of public or community transport;
- being able to manage chronic disease at home; and
- access to medical and specialist care as well as the financial security (including access to health insurance) to be able to access that care if needed.

Therefore, the presentation of qualitative data in this section uses three key sub-themes: paying for support, including preferences for paid services and types of paid services commonly accessed; older people's experience of motor vehicle driving or not driving; and

finally, access to medical services, including access to both general practitioners (GPs) and specialist care.

Paying for support

This sub-theme related to access and preferences around paying for services and care.

In keeping with older people's desire to not ask for too much help from family and friends, older people were prepared to pay for the range of services they required. These services included mowing the grass and other gardening jobs, regular home cleaning help, household maintenance jobs and even transport. People who were interviewed indicated that they were increasingly using services now compared to only a few years ago. Some older people had access to financial support from government services such as the Australian Government Department of Veteran's Affairs. So, while financial circumstances did determine the ability to pay for some services, there were still clear preferences from older *local self-contained* participants to pay their own way.

> *Yeah, I get help, I pay for help, yeah. I buy in the services I need… I've got an electrician, I've got a plumber, I've got a handyman, I've got a gardener (chuckles), and I know when I'm so busy and I haven't cleaned the joint up a bit, then I know who to get (laughs) to come and do a spring clean, yeah. I've got someone who does the windows, so I know, there are services here. … so, when I can no longer drive, I'll make different arrangements. I'll probably get a taxi or I'll have the shopping delivered, or buy it online or something like that, yeah … I wouldn't ask them <brother or sister>, I'd get the services I need, there's plenty of services here in Bairnsdale, but, if I can afford it, I'd rather buy it, than you know, have home help, or that because there's people with bigger needs than me… why do you want someone to come and do something for you when you can do it, but the reason you're doing it is because you are entitled to it.* (Elaine, 30:00)

Paying for support also extended to paying for care. For both Elaine, who had never married and lived alone, and for Janet, who was married with children, plans for future care were also in place.

In summary, older people in this network type preferred to pay for any services they needed. While some older people had access to financial support from government agencies for some

assistance, there were still a clear preference that older people wanted to make their own decisions and pay for any services required.

Motor vehicle driving

This sub-theme related to driving independence or reliance on others for transport. It also covered key aspects about people's experiences of public and community transport (where it existed).

There were mixed concerns among this group of people regarding driving, because a number of older people had already ceased driving. Some had either adjusted to other forms of transport or noted that taxi use was more common than accessing public transport. The loss of a driver's licence was less of a concern for older people who lived close to services, who had access to a spouse or partner with driving capability, or for older people with neighbour or friend who were happy to assist with transport. It was acknowledged that public transport was minimal to non-existent.

> *<Husband> tends to do more of the driving. I can drive, when, he can't… Just to go and see my doctor, I've got to go to Bairnsdale, so I've got to be driven, he's gotta drive me there, because I don't know if I could drive that far any more. I probably could, but it's just been so long since I've driven.*
> (Christine, 21:20)

For people who lived out of town, the prospect of losing a driver's licence was a real concern due to the lack of public transport. There were some opinions that an increase in the provision of public transport may eventuate as a result of local population growth.

> *… And the thought of not being able to drive at some stage, is a bit of a worry… There's no real public transport, I'm fairly confident that when we get to that stage, there will be a community bus type arrangement to go shopping or something like that (pause) … There was a <name of community bus>, but not enough people were utilising it.* (Robert, 37:46)

In summary, older people no longer driving were usually married to spouses who were still driving, so they were not greatly affected by this change. There was broad acknowledgement that public transport was minimal to non-existent, and for people living alone, the ramifications of losing a driver's licence were more significant. For older people living in

larger towns like Bairnsdale and Paynesville, there were both public transport and private taxi options.

Access to medical care

One of the common subthemes regarding access to services in this research related to access to medical care. This section presents findings about older people's experiences of access to medical care, how far people had to travel to access medical care, and the implications of access to medical care on their ability to manage chronic illnesses at home.

There was a general consensus that it was difficult to see a GP of choice, and that it was necessary to travel to Melbourne to see medical specialists, although outreach services were expanding all the time.

> *Not easy to see General Practitioner but recently when I got sick, I met another really nice doctor so I thought, well, I'll see her again., Oh, yeah, I've currently got a tooth that's got to comes out, so I've just been down to Melbourne to see a <specialist> and I get others things done in Melbourne. Yes, I use the train service, three times day it goes there and back, fabulous service.* (Elaine, 38:10)

However, for the participants living with chronic disease, access was more straightforward due to the regular check-ups required to remain living at home.

> *It's a bit different for me. I have to see my doctor every month, because I am on <medication>… so, I can only get four in a prescription which lasts me for a month, so need to see the doctor every month… I've had the same GP for the last twenty years I think… although I don't mind that clinic because I've seen most of the others and I know them all… but if you are sick, you can be seen, and if you're really crook, you just go up to the hospital… Some people around here do have a hassle getting into the doctors.* Christine (32:50)

In this cohort of people, there was also evidence that people had planned for the future and had opinions about the suitability of local nursing homes as well as options for downsizing or changing locations if required to be closer to services.

In summary, access to a GP of choice was seen as difficult for most people, but there was broad acknowledgement that if you were ill, you would be seen by one of the doctors in the local clinic or at the local hospital. There was also evidence that older people in this network

type had planned for future care needs and had plans in place to remain living at home for as long as possible, as well as moving when this became necessary.

Conclusion to accessibility

Older people in this network type preferred to pay for services when they could afford to, and accessed financial assistance to source help with household tasks rather than request assistance from family or friends. There were mixed opinions about the loss a driver's licence, and understandably, this related to whether there was an alternative transport option available. For older people living with a spouse or partner, there was often access to a car and transport to shops or medical appointments, even if they themselves no longer held a licence. For others living alone, it was more complicated. For those living in larger towns, public transport and private taxis were used. For others, friends and neighbours were found to provide transport assistance. Access to a GP of choice was generally challenging, and continuity of care more available for people living with chronic illnesses. The train service to Melbourne was mentioned as a good service for both access to specialist medical care as well as access to other social and cultural activities.

Conclusion to the lived experience

Older people in this network type were independent people who had good relationships with their families but respected that, like themselves, other people had their own lives and that support was given and received when it suited both parties. There was widespread support from older people in the raising of grandchildren, and this also provided more contact with adult children, which appeared to be enjoyable to all concerned. Relationships with siblings and friends were important peer-age relationships, and people were more inclined to confide in friends and their closest sibling than adult children. Neighbours were important relationships for many people in this network type, particularly for older people living alone. There was evidence that some neighbours had become trusted friends and provided regular companionship and support with transport (if required).

Older people in this network type had often migrated into the area to care for the land and environment. Civic engagement was strong, and professional skills were shared to support community endeavours. However, older people did communicate their preferences for spending time alone and enjoying individual pursuits, whether that was reading, crafts, playing musical instruments, or more active pastimes, such as bushwalking or fishing. Importantly, there were low levels of loneliness for this group of people, although some

participants indicated this may change if their personal circumstances changed, i.e., if they become very ill or if their neighbourhood was to change too much.

Finally, older people in *local self-contained* networks had difficulties accessing their GP of choice, and expected to have to travel to Melbourne for specialist medical care. Motor vehicle driving was considered an important source of independence, and for older people living outside towns, or in smaller towns with no public transport, loss of a driver's licence would signal a lifestyle transition. Older participants had generally planned for future care scenarios, especially those living with chronic illnesses. Moving to larger towns, like Bairnsdale, to access services, including supported accommodation, were considerations in those plans.

Summary of the local self-contained support network findings

Older people in this network type generally experienced low levels of loneliness and were occupied by their own home-based activities, or involved in civic minded community activities. Reading, looking after gardens, enjoying music, and pottering around with domestic tasks were the most common activities identified. For two older people interviewed, chronic illness had a role to play in their home-based lifestyles; that is, they were no longer able to be away from home for any sizable length of time due to their illnesses.

Community engagement, where it existed, tended to be purposeful rather than sociable. Landcare groups and other groups that involved activities supporting the local area were popular choices for *local self-contained* older people. Study participants were also well educated and often held professional roles within these organisations due to previous work and life experiences. For a number of older people, caring for the land was one of the main reasons for moving into the area in pre-retirement (with their families) or in post-retirement as a way of life.

Older participants had regular contact with family members and friends (both with those living locally and at distance), and people aged 75 years and older saw their families more often than people aged 65 – 74 years. Neighbours were often important for older people in this network type, providing the most frequent social contact for many participants. In some cases, relationships with neighbours had developed into ones that were akin to close family relationships or good friendships.

Finally, there were clear preferences to pay for services rather than ask or rely on people within the social network to help. This extended to planning for the future, such as

downsizing, moving closer to town (for people living in more isolated communities) to be closer to services, consideration of preferences for retirement homes or nursing homes in the area, and a clear wish to not burden family and friends with care needs into the future. People spoke about being organised and prepared, and that their families knew of their wishes to remain independent in their choices.

The Family Dependent Support Network

Introduction

The Wenger *family dependent* support network is generally characterised by older people who rely on immediate kin for the majority of their needs and social interaction (Wenger, 1991, 1994). Community involvement is typically low, and social activities tend to be focused on family gatherings and visits. Long-term residency is common, and local friendships are valued, but contact with neighbours, while friendly, tends to be reserved. This network is often associated with higher levels of dependency because people are usually older and in poorer health and because families are both more able and more committed to caring for relatives at home.

The *family dependent* support network in the Australian data was one of the two smallest networks in the Australian *Wenger Support Network Typology*, (11%, n=40); that is, the lowest number of older people in the East Gippsland study sample were embedded in this network type. The key network characteristics of the Australian *family dependent* support network are presented through both a quantitative data analysis and a discussion of key themes from the study's thematic analysis. A summary of key findings concludes this section. Please note that all network frequency data and all tests for independence are presented in tables in **Appendices 27 and 28.**

Identifying key network trends

Older *family dependent* participants and their relatives were found to live in near to each other, with all study participants living within ten kilometres of their closest relative (100%). Older people and their adult children and grandchildren saw each other often, with just over half of all *family dependent* study participants (53%) seeing a relative every day.

Contact outside the home was more varied. Nearly two thirds of older *family dependent* participants regularly saw friends at least weekly or more often (60%), but contact with neighbours and the broader community was generally low. The majority of people in this

network type reported having only ‘at least monthly’ or less often contact with neighbours (70%). Participation in community activities and social clubs was even more definitive, with four out of five people only participating in activities or social clubs occasionally (38%) or not at all (45%). Less than one third of all respondents reported attending religious services and events, with occasional attendance more common than regular attendance (20% versus 10% respectively).

There were more female respondents (63%) and a high level of widowhood (43%) in this cohort, but gender and marital status were not found to be influential on the levels of contact *family dependent* respondents had with their neighbours (χ^2 (1,40) = 0.242, p = .622 and χ^2 (1,40) = 0.082, p = .775) or their involvement in the broader community (χ^2 (1,40) = 2.182, p = .140 and χ^2 (1,40) = 0.123, p = .726). Interestingly, age and health status did not influence the levels of contact older people had with their neighbours (χ^2 (1,40) = 1.473, p = .225 and χ^2 (1,40) = 2.218, p = .145) or their involvement in the broader community either (χ^2 (1,40) = 1.473, p = .225 and χ^2 (1,40) = 0.010, p = .919); that is, being female, widowed, older, or in poorer health was not statistically significant in determining levels of neighbourly contact or levels of community engagement.

Living arrangements were also explored. Almost two thirds (61%) of *family dependent* older people lived with someone else, and there were high numbers of people who had lived in the area for 25 years or more (60%). Surprisingly, those who had lived in the area for more than 25 years were not more involved with their neighbours or communities than those who had moved into the area more recently (χ^2 (1,40) = 2.037, p = .154 and χ^2 (1,40) = 0.017, p = .897). Similarly, those respondents who lived alone did not have more or less to do with their neighbours or communities when compared with those who lived with other people (χ^2 (1,36) = 1.217, p = .270 and χ^2 (1,36) = 1.217, p = .270). However, the size of the town was shown to be an important factor for community involvement (χ^2 (2,39) = 6.442, ***p* = .040**). That is, those who lived in the larger regional centre of Bairnsdale, or the mid-sized retirement towns of Orbost and Paynesville, were more involved in social and community activities compared to older people living in smaller towns or more rural East Gippsland locations.

Respondents in this network type were found to be fairly evenly spread out across the three different sized communities, with slightly more people living in the regional centre of Bairnsdale (39%), compared to a mid-sized community (28%), or a smaller community

(33%). Therefore, it was not clear from this data whether greater community involvement in the larger towns was due to the existence of a greater variety of social engagement activities, or whether people living in or settling in the smaller East Gippsland communities were seeking different types of social interaction and lifestyles. Interestingly, the statistical significance of size of town for community involvement did not extend to patterns of contact with neighbours (χ^2 (1,39) = 0.735, p = .692), suggesting that limited contact with neighbours was a deliberate lifestyle choice by *family dependent* respondents across all communities, large or small.

Further exploration of patterns of social interaction across the broader community included exploring the relationships older people had with local friends. Local friendships were found to be important to many older people living in this network type, with the majority of *family dependent* respondents seeing their friends regularly (85%). However, the meaning of 'regularly' did vary quite a lot, from contact two to three times a week (30%), to 'at least weekly' visits (30%), through to 'at least monthly' catch ups (25%). This varied contact pattern was mirrored in telephone call frequency patterns; that is, some respondents spoke with friends on the telephone a few times a week (20%), while others selected 'at least weekly' (35%), or 'at least monthly' conversations (33%). Only a few people spoke with friends less often (10%).

Face-to-face contact with friends was not influenced by demographic variables such as age, health status, gender, marital status or living arrangements (χ^2 (1,40) = 0.017, p = .897; χ^2 (1,40) = 1.538, p = .215; χ^2 (1,40) = 0.444, p = .505; χ^2 (1,40) = 1.069, p = .301 and χ^2 (1,36) = 0.097, p = .775 respectively); however, gender was found to be statistically significant for telephone contact, with women speaking on the telephone with their friends more frequently than men (χ^2 (1,40) = 4.552, ***p* = .033**). Interestingly, older people who saw their friends more frequently also spoke to them more often on the telephone (χ^2 (1,40) = 14.158, p = **<.001**). This may indicate that telephone calls with friends were an equally satisfying way to stay connected, provided opportunities for social contact outside socially acceptable visiting hours, or were ways of seeking help and advice. This finding may also suggest that the telephone is a useful mechanism to organise social visits; that is, more regular visits required more frequent telephone contact. The use of information and communication technology (ICT) with friends was also found to be statistically significant in relation to telephone contact, with older people who spoke more often to their friends by telephone also

communicating with them more often by ICT (χ^2 (1,39) = 4.542, ***p* = .033)**. Again, it could be suggested that texts and emails may be useful ways of sharing information, staying connected, or arranging future social visits and telephone calls.

Further exploration of the use of ICT found that older people living in Bairnsdale or in the mid-sized towns of Paynesville and Orbost were more frequent users than people in smaller towns and communities when communicating with both friends and relatives (χ^2 (1,38) = 6.886, ***p* = .009** and χ^2 (1,38) = 4.795, ***p* = .029**). All other demographic variables were not found to be statistically significant, which suggested that other factors, such as a reduced preference for using the telephone or a lack of access to relevant telecommunications infrastructure, may exist in smaller towns and more rural locations. It was not possible to fully interpret this finding with the quantitative data available.

For older people who had lived in their communities for more than 25 years, it was also likely that some friendships existed prior to older age, but it was unclear from this data how older people formed new friendships. Newer arrivals were found to be the most active users of ICT in relation to communication with friends (χ^2 (1,39) = 9.084, ***p* = .003),** but again it was not clear from the available data what the relevance of this contact was or if some of this contact related to keeping in touch with older friends from previous communities. Consistent with the low patterns of community interaction identified earlier, the pattern of visits and telephone calls with friends was found to be independent of community involvement (χ^2 (1,40) = 0.943, p = .332 and χ^2 (1,40) = 1.473, p = .225). This also points to older people seeing and visiting with their friends in more informal settings, such as homes and cafes, rather than social clubs. For older people with lower levels of contact with friends, contact with relatives remained high, highlighting that some older *family dependent* respondents relied almost exclusively on their relatives for all levels of social interaction.

The level of contact older people had with their families was not influenced by the size of the town (χ^2 (1,39) = 0.051, p = .821). In fact, contact with family, for both visits and telephone calls, was found to be independent of age (χ^2 (1,40) = 2.634, p = .105 and χ^2 (1,40) = 0.123, p = .726) and health status (χ^2 (1,40) = 2.162, p = .141 and χ^2 (1,40) = 3.647, p = .056); that is, respondents who were older or in poorer health did not see their families or talk to their relatives on the telephone, more often than those who were younger or in good health. This pattern of engagement was also shown to be independent of gender (χ^2 (1,40) = 0.327, p = .567 and χ^2 (1,40) = 0.541, p = .462), marital status (χ^2 (1,40) = 1.568, p = .210 and χ^2 (1,40)

= 0.000, p = .987) and living arrangements (χ^2 (1,36) = 2.258, p = .133 and χ^2 (1,36) = 0.071, p = .790). These findings perhaps highlight the strength of this network type for older people in relation to changes in life circumstances, such as becoming widowed or experiencing poorer health, because the high frequency of usual contact with relatives, and the proximity in which they all live, was likely to provide some buffering effect to spousal loss.

Finally, it was also clear that even with the high levels of widowhood (43%) there were also high numbers of people living with someone else (61%). This suggested that some older *family dependent* people were living with adult children or siblings. It was not possible from the quantitative data to be definitive about the proportion of older people living with adult children or siblings, but with most people reporting they had a living brother or sister (85%) and nearly half of all living siblings also living close by (41%), it would not be surprising to find some siblings cohabiting.

Conclusion to descriptive statistics

There were more women and high levels of widowhood in *family dependent* support networks, although gender was not found to be broadly influential with patterns of social contact or community involvement. Older people in this network type typically lived in close proximity to their relatives, including adult children, grandchildren and siblings. Frequent, often daily, face-to-face contact was common for both men and women.

Older people in this network type lived in fairly similar numbers in all of the different-sized communities across the region, but contact outside the household was generally low. Older *family dependent* participants were not typically involved in social clubs or community activities, and there was broad, infrequent contact with neighbours. However, regular contact with friends was evident, although the frequency of contact varied considerably, from ‘two to three times a week’ to ‘at least monthly’. While women were more likely to speak to their friends on the telephone, patterns of ICT use were not gender specific. ICT use was greater in the larger towns, but it was unclear if this was related to infrastructure or personal preferences.

Key characteristics that were consistent with the Wenger characteristics so far included: relatives lived in close proximity, very frequent contact with relatives but limited contact with neighbours, low community involvement, and high levels of social activities with relatives. Further exploration was required to understand the differing levels of contact in friendships and the types of social activities older people enjoyed.

Exploring the lived experience

The presentation of the qualitative data collected from older people in this network type, in accordance with themes generated from the study's thematic analysis, comprises the lived experience. This data enabled greater visibility of people's day-to-day lives, enabling further exploration of the key Wenger characteristics of the *family dependent* network.

In the East Gippsland sample, the *family dependent* network comprised 40 people. A total of 15 valid comments (averaging 45 words) were provided via the research questionnaires, and five older people were interviewed. While two people aged over 80 were selected for interview, both were unable to participate in an interview due to poor health at the time interviews were being scheduled. The key demographics of the people interviewed can be found in Table 6.3.

Key findings from older people's lived experiences are presented through the three main themes of the thematic analysis: Supportive Relationships; Neighbourhoods and Community Engagement; and Accessibility.

Table 6.3: Key demographic data for interviewees in the *family dependent* support network

Interviewee *pseudonym*	**Age**	**Community**	**Length of residency**	**Living arrangements**	**Marital status**	**Health status**
Peggy	68	Orbost	25 years +	Spouse	Married	Good
John	72	Kalimna	25 years +	Spouse	Married	Good
Sean	74	Swan Reach	25 years +	Child	Widowed	Good
Irma	78	Paynesville	25 years +	Child	Not married	Good
Marilyn	78	Paynesville	< 25 years	Alone	Widowed	Good

* *Lived in current place of residence less than 10 years*

Supportive relationships

Introduction

One of the important themes in this study related to the role of supportive relationships and who shared supportive relationships (or not) with older people. These relationships included giving or receiving one or more of the following: physical help, emotional support, affection and intimacy, companionship, friendship, filial duty, or moral obligation. Relationships with spouses or partners, adult children and other relatives, friends and neighbours were included in this study. Supportive relationships with adult children, grandchildren and other relatives

are presented within the subtheme of *families*. Experiences of supportive relationships with both *friends* and *neighbours* are presented in separate subthemes. Supportive relationships of an intimate and personal nature are explored under *intimate relationships.*

Intimate relationships

The role of supportive intimate relationships includes the roles of spouses and partners, as well as the loss of these types of relationships for those who were widowed.

None of the older people interviewed required any instrumental support from their spouses and partners to maintain everyday life. However, one older person interviewed shared her experience of trying to support an older 'living apart' partner, and her expectation that he would receive increasing levels of support from his family if and when it was needed.

> *My partner is much older than me. He has started to suffer, I don't know what it is, dementia or whatever, he is getting very forgetful … his family doesn't want to accept that he's on a downhill thing … last time I saw him, I said, you look very neglected, and he did, he needed his hair cut, his shirt was not clean and … he just looked at me, like to say, well, it's my thing, and I don't feel that way. He never wanted a close relationship, he always wanted to be independent, so (laughs) I think today well, you wanted your independence, you have got it. I'm willing to look after you now and then, but I'm not going to make it a permanent thing… It's sort of sad that, his daughter could be there in less than two hours, and she goes there but doesn't look after him or the house, there's a whole lot of things, all the time that I have to sort out when I turn up, well … that they are supposed to do, they're his family.* (Irma, 17:28)

For older people in this cohort, spouses were found to provide emotional support and companionship, and in some cases, were considered a confidant. In widowhood, this loss of companionship and intimacy was missed. As Sean (29:30) explained:

> *Going back to relationships stuff, that is a difficulty for me. I do like to have a woman about but, ahh, they are just so hard to find, and it's the, you know, it's just to have the company, to have someone to care about, and um, you know cuddle and whatever, being realistic, and just somebody, they don't have to solve anything, just listen… I thought I had found someone but then she died*

too … I would like to meet someone but don't really have time for socialising and courting.

The older women interviewed spoke more about the companionship they experienced by having a spouse or partner, especially in relation to travelling. However, health issues with a husband or partner were likely to impact future travel plans. For Irma, the recent change in the mental health status of her older partner was likely to impact her 'grey nomad' travelling lifestyle and the time spent with him, as she (39:20) explained:

I know my partner doesn't want to go anymore. I don't know if I want to go on my own. I'm not too sure yet, but I'm invited because we went, that many years, and I have accommodation, so I still can go there if I want to… we are normally <number of months> of the year together… but we always would do our own thing… he's at the stage where he wants to be in his own four walls, for security.

In summary, spouses and partners were important sources of companionship and emotional support. For older people in early retirement, travelling was a common activity shared together. Poorer health and widowhood had impacted the lifestyles of older people in this network type. The loss of intimacy and emotional support in bereavement had encouraged some older people to seek out new intimate relationships, noting there appeared to be limited opportunities to meet new people.

Family

This sub-theme relates to the roles of adult children, siblings, other relatives, intergenerational relationships with grandchildren, and, for people who were not parents, their experiences of support with other relatives including nieces and nephews.

Older people enjoyed spending time with their adult children and grandchildren, and there was an active connectedness that was evident for older people in this network type. This appeared to be based on affection, and contact within families was both regular and frequent. As Peggy (14:18) explained:

My kids or my grandkids text, it's nearly daily, not all of them together but, you know, it might be <name of grandchild> today and <name of grandchild> the next day or whatever, most days, and um, then my youngest granddaughter

who will be <age> this week, yeah, um (chuckles) she texts me nearly every day, hmm, hi nan, what are you having for tea? (smiles).

Older people in this network type enjoyed seeing grandchildren regularly and were often actively involved in the raising of grandchildren, whether by providing babysitting to preschool children, transporting school-aged children to after-school activities, or taking older grandchildren on enjoyable outings such as swimming at the beach. Older people indicated they were happy to do these things at their own cost, whether that was the cost of the extra petrol they used in driving their grandchildren around or the costs associated with visits such as buying ice cream after the swim at the beach.

I see her <name of co-located daughter> every day, yes (laughs), and my son, every time I go shopping to Bairnsdale, well, I pop in to see the grandkids after school, or take them out, or I pick them up and we go swimming to Lakes or, yeah, I see my kids on a regular basis who are up here… (Irma, 16:10)

Some of the older people interviewed were living with adult children. This was not because they needed care but because they were providing a level of support to their adult children. There was also the visibility of reciprocity in these types of supportive arrangements, and the type of reciprocal support was something that would work for both of them. As Irma (21:10) explained:

I just handed her <co-located daughter> the garden over because she lives rent free, so, I said, you can live rent free, but you look after the garden. Because I had somebody who did that, so. I always say (laughs) one hand washes the other… and she loves gardening.

However, it was also clear that support would also work in the reverse direction for older people as a result of the level of family connectedness in this cohort of people. That is, their adult children were likely to provide increasing support if it was needed. A good example of this was shown by John, who together with his wife provided regular care of their young grandchildren, but who identified that an adult child would provide John and his wife with additional support and care in older age. As John (5:29) explained:

My daughter, oh, I'd see her two or three times a week, and no hassle, sometimes more, I work a bit down that way … and I see them <daughter and son-in-law> a lot, … and we get the kids a lot. <Name of wife> spends a lot of

time babysitting, in fact, we had the kids here for the weekend, and so it's very active that way, like <name of wife> is over there, looking the kids today… If something happened to one of us, yes, that would be a change of life, and that crosses our minds, you know, and we prefer to put it at the back and think we will stay healthy enough to stay for at least another five or six years, but then the plan is our daughter and son-in-law want to come out and build out here anyway … so hopefully that will happen, it would be really good.

Siblings and other relatives, living both close by and at distance, were also found to provide important social support and social connection. The patterns of life-long relationships and family support were particularly evident for Peggy and her siblings in the care of her elderly, widowed mother. Of particular note were the roles assigned to Peggy's siblings based on their level of proximity to her elderly mother; that is, those closest were able to provide regular instrumental support, while those living more distantly, different types and levels of support. Being able to remain living in the community and in your own home was identified as important by *family dependent* older people. As Peggy (16:50) explained:

Yeah, we've still got Mum in her own home, but we've got lots of services in place for her, she gets, um, the nurse comes in every morning to help her shower and dress, she has home help come in, we've organised, um, a lady who once a fortnight takes her shopping for three hours, and, if she doesn't use the whole three hours, she's a really nice lady, she'll take her to a coffee shop and have a cuppa with her. Um, yeah, so lots of things like that, and because two of my brothers live close, they check on her, daily... especially with her tablets…and then I try to get down there at least once a month for a couple of days and yeah, well I do the nice things (smiles), like take her out for tea and things like that. Yeah, they do all the hard work (smiles), the gardening or the lawns or whatever, so, yep…there's been a couple of times when we've thought we're going to have to put her into care <description> and we thought this is it, but my sister came over from <name of town> and stayed for a couple of months with her, so, which was good and she got over it, and she's still in her own house, which is really nice.

Living independently and without physical or mental handicaps was also an important aspect of ageing raised in the interviews. It was also acknowledged that this was largely outside

people's control, but most of these reflections came from a place of experience, with older people in network type having cared for more elderly mothers or terminally ill spouses. All of them felt their adult children or siblings would provide additional instrumental support if they needed it, while hoping they would not need it. All of those interviewed spoke about valuing the ability to maintain physical independence for as long as possible. A good example of this was provided by Sean (1:24:39):

> *I've got my kids and my brother and my sister… If I had a real problem, I reckon my sister would come up, even though she's not overly well, she would be on the phone or she and <name of brother-in-law> would come up here, and they mightn't be able to do anything but they would be concerned and try and do something to help me… my aim is to look after myself for as long as I can, and yes, when I can't I've got to do something but while I can, I will, and it may not be at a very high level but it is good enough.*

In summary, families were part of the everyday lives of older people in this network type. Adult children and grandchildren were in regular, often daily, contact with their parents. Visits, telephone calls, and ICT use with relatives were visible, and many social activities revolved around families. There was evidence of considerable contributions being made by older people to support their families, whether that was in time, such as in the care of grandchildren (to enable adult children to stay in paid work), or financially, such as providing 'low-rent' accommodation to adult children.

Friends

This section presents the findings on the supportive role of friends and what support looks like and what it doesn't look like.

Friendships were important to older people and contributed to their quality of life. Older people contacted friends for a chat or some company, or, in the case of a close and trusted friend, to seek advice or to summon help. There was also acknowledgement that the loss of friends had an impact on patterns of socialisation. In some cases, friends provided access to instrumental support.

> *Most of my friends I had here in <name of community> have died or moved away… but I still have some friends in <adjacent community>, I have one or two friends here, yeah, I still have a few friends in Bairnsdale, um, because*

when you live on your own, and you want to talk, you have to make an effort (laughs) and you have to have a network. (Irma, 26:40)

One, a bloke down here, I rarely speak to him, rarely, I would never go and have a cuppa tea with him or anything, but I know if I've gotta problem, I can ring with a minute's notice ... I could ring him right now and he would talk to me and do whatever or sort something out, or something … The other thing is, you talk about friends, but I mean friends are there when the chips are down aren't they… People who you think are friends, but then when things get really tough, they disappear, and ah, and you think these people really aren't, and then they turn up and they'll be on the job, you know, front up when things get tough. (Sean, 1:23:19)

Older women in this network group spoke about the enjoyment of spending time with friends and sharing social activities. The considerable variation found in the quantitative data, regarding the levels of contact people had with friends, was visible in this data too. That is, contact varied from nearly daily contact through to only monthly catch ups. Some of this was related to the distinction between long-term friendships and more recent friendships. There were also different friendship roles depending on the proximity of their living arrangements and personal circumstances. As Marilyn (32:48) explained:

There is another lady who is the same age as I am, and though she has lived here a long time she is <of the same citizenship> originally so we were always struck by the similarities, of our lives … we have quite a lot in common, we are the same age, the same sort of education, and so, you know, we meet up but only about once a month, it's not constant.

People in this cohort also spoke about the supportiveness of long-term friendships, especially those established in youth and early life. As shown earlier, Sean had the ability to just pick up the phone and call someone he rarely sees in person now but who he counts as a lifelong local friend. Other people interviewed also explained that the frequency of contact, or lack of face-to-face person contact, did not necessarily define the quality of relationships or the emotional support that a close friendship can provide.

You live with them day and night and I lived in a hostel so, you know, we shared bedrooms and clothes and everything else (laughs) yeah, so, and I think you do get close to those people. Like when <tragic event> occurred last year,

it was really nice, because some of my friends just came, you know.
(Peggy, 13:15)

Oh, yes <keeping in touch with old friends> but that's letters, we're of the generation that write long letters. And yesterday, I posted a long letter to <country>, and I can tell you how many long letters I've written since <date>, that's eight long letters to … a friend since antenatal classes (also well in her eighties), and my oldest school friend, my husband's brother and his wife, and <others>... as you can see, correspondence is quite a big thing (laughs).
(Marilyn, 25:26)

In summary, there were distinctions between lifelong friendships and newer friendships. Newer friendships were often associated with proximity and shared activities, while life-long friendships were based on shared life experiences and emotional support. This distinction between friendship roles largely explained the difference found in contact patterns across this network type. More frequent contact was generally associated with friends who shared local outings and activities, while less frequent contact was usually connected to lifelong friendships, many of which were geographically distant from older people.

Neighbours

Neighbours were described as people who lived next door to older people, or for people living on larger properties, neighbours were sometimes more distantly located but were the closest people available. Of particular interest in this study was the role of supportive neighbours, what tasks they were comfortable doing and what social boundaries existed between older people and their neighbours.

In contrast to relationships with family and friends, neighbours were not considered to be social companions but rather were available as a resource for instrumental support or emergency support if and when they were needed. People were generally friendly with their neighbours, but neighbours were not considered friends.

Because we are at the end of the street <in small out of town community> if any of the neighbours down the road are outside, I'd see them, and wave as we go past, but other than that, yeah, you see them around, or they're there, or they might drop up for a cuppa. I don't do, like, neighbours' every day coffee

thing at all, but I mean, if they need help, I'm here and if I need help, I know that they are there. (Peggy, 19:02)

The elderly couple over there <points to residence>, ahh, listen to me, but well, they are almost ninety (smiles), I'm immensely fond of them … we spend time chatting, I mean I get on fine with most people here … but we don't live in each other's pockets I've noticed. This is not an old person's facility and you don't want to give the authorities any reason to cut down on services… You just give people a hand if they are struggling a bit, you know. (Marilyn, 34:58)

While levels of socialisation were low with neighbours, two older people had developed a friendship with a neighbour. These were friendships that had developed over time based on shared interests, and these people were now considered friends rather than neighbours. One friendship had started from moral obligation and the other from the shared experience of raising children of similar ages.

I see the lady that side <points to the unit> every day, she's <older age>. And I admit, that it began because her daughter-in-law asked me if I could keep an eye on her. And we have exchanged front door keys, in case, we can't, people can't get an answer, you know (laughs), I mean we are both fondly hoping to end up in a heap on the floor one day, but um, we found, although I started out doing this as a favour for the daughter-in-law, we found, that actually, we have a sense of humour in common, and we get on terribly well. But we do not live in each other's pockets… she is less mobile that I am so I do little things for her, like getting her rubbish bins in, and that sort of thing. (Marilyn, 32:48)

My neighbour next door, we're pretty close, the family there. We sort of, you know, watched each other's kids grow up over the last 25 years, they've all got kids now, yeah, it's been a great relationship … My neighbour is probably my best mate here, yeah, I'd say pretty much weekly <we see each other>… there are a couple of other neighbours around the corner, yeah, we know each other, but don't socialise with 'em, maybe the odd barbeque over the years, you know… sometimes my mate bleeds on my shoulder and sometimes I bleed on his, you know (laughs). (John, 12:11)

In summary, neighbours were generally known and relationships were friendly but not close. Neighbours were available sources of help, but most people considered this to be for

emergencies only, when proximity was critical, until such a time as families could arrive. There was also evidence that some neighbours had transitioned to friends and were therefore no longer considered neighbours. These relationships had either started earlier in life (so they were considered life-long friends) or were the result of being introduced to each other by request; that is, they did not seek out the relationship without assistance.

Conclusion about supportive relationships

All the older people in this network type were parents, and life-long patterns of support and affection were evident. There was a ready availability of family members (adult children, siblings and grandchildren) for instrumental support or emotional support, particularly in widowhood. Moral obligation was evident in some of the instrumental support older people both received or provided to more elderly neighbours, but contact with friends was motivated by preferences for companionship and emotional support. Spouses and partners were also found to be important sources of emotional support and companionship in later life. Levels of loneliness for older people in this network type were low, except for older people who were caught up in lifestyles (as a result of widowhood or caring for others) that had isolated them from social activity with friends.

Neighbourhoods and community engagement

Introduction

This theme was focused on older people's experiences of community, their sense of belonging, levels of participation in local events and social activities, work, volunteering and migration patterns in and out of community.

Neighbourhoods and community engagement

While the types of social activities and local facilities available appeared to somewhat determine the level of community engagement for this cohort of people, there was a clear trend that older people did not participate in social clubs by preference. As Irma (52:23) explained:

> *When you retire, you do all sorts of things, because you think you get lonely, bored, and then, one after the other one, you give up, you think no, I don't really want to do that, no (laughs). Like I started lawn bowls. And they were that cliquey, and some of the people, it felt liked they lived there… I always left my things at the clubhouse. One day I came and my bowling shoes were gone. I*

was that irritated about that. I thought, I am a member … I do not expect anyone to take anything… it was most probably the last straw and I didn't want to be there anyway (laughs) but it was the last straw that gave me an out.

Local infrastructure was also found to be important in motivating older people with getting out and about in their communities. As Marilyn (48:12) explained:

The library is an excellent place to go. We have community films, I go to the library all the time, um, there are, various other, um, events covered and published. I think that it's a real community blessing, our community centre. We are very lucky, for such a small place, to have such an active community centre.

There was also evidence of voluntary activity, especially for older people in early retirement. For older professionals living in smaller communities, this also helped to maintain connections with other professionals in the community.

Well, if there is a community meeting, for a bushfire or something like that, we would go to the community meeting, um, I'm not involved in any community group except for the local school. I help out around the corner, I'm around there um, like the school teacher that can't let go (laughs) … I just work with kids that are struggling with reading, sometimes with older kids, they might need a bit of a boost in language, grammar, that type of thing. (Peggy, 22:45)

I feel sometimes that you, um, can be repaid in other things than money, and um you know, just someone to give you a cup of tea, you know that sort of thing. I do jobs for people and I don't want anything for it, it's only a small job and I will have a cup of tea with you… I also look at whether someone can pay, like are they on a pension and you know that's it's going to be darn difficult for them to pay but this needs doing. To me you get in and do it. That's it, you know, you're just keeping the world going. (Sean, 1:14:20)

Older people in this network type also valued the strong sense of belonging and caring they felt in the communities in which they lived. In particular for long-term residents, older people who were known in their communities, there were often others who were found to be supportive. They become more involved at those critical life changes, such as in the case of early widowhood. As Sean (1:21:36) explained:

The woman up here who's the nurse, I would talk to her virtually, I would either talk to her or leave a message on her phone every day. Since my wife left <died> I was here on, absolutely on, my own and she sort of took me by the collar and said, you've gotta ring me at night so somebody knows that you're still alive. So, I used to ring her night and morning. So, she knows I've got outta bed in the morning, and she knows that I've got into the house at night.

Finally, some of the older people in this network type were still working. This was especially common for older people living on farms and working the land. However, working often helped them stay connected with others, and for older people living alone, this was particularly helpful in alleviating loneliness.

Being alone

This sub-theme explored older people's levels of emotional self-sufficiency, the types of home-based activities they enjoyed, as well as their experiences of loneliness (if any).

In this cohort of older people, spending time alone provided the opportunity to be engaged in enjoyable activities, and levels of loneliness were generally low. As Marilyn (59:10) explained:

> *Do you know, I don't think I've ever felt lonely in my life. The other thing I've never felt is bored. I have never been bored, for, one, minute. My god, how could you be bored when there is a book written that you haven't read… really, it's not a word in my vocabulary… I'm fortunate that I've got enough interests that don't involve being in society or being in company.*
> (Marilyn, 59:10)

However, for older people who were more housebound as a result of caring responsibilities, and therefore more socially isolated from their communities, or for older widowed men, there were levels of loneliness that contact with families appeared unable to alleviate.

In summary, there was a strong trend of older people in this network type enjoying solitude and engaging in home-based activities. However, for older people who were more socially isolated, there was sometimes too much time alone. Importantly, there were robust levels of emotional self-sufficiency in participants, and even older people who admitted to some degree of loneliness had developed strategies to cope and get on with their lives.

Conclusion to neighbourhoods and community engagement

Older people in this network type were often long-term residents and well known in their communities. They were not involved in social clubs and community activities, but they were found to enjoy contributing to their communities, usually based on their skills from previous work occupations. Older people with professional backgrounds were found to be more connected in early retirement, and older farmers and people living on the land still enjoyed providing help to their neighbours, if they could. Social contact with neighbours was low but friendly, and people were likely to help each other if required. Local infrastructure, such as libraries and cafes, provided avenues for older people in this network type to mingle in the community. This was often enough social contact with others. Older people preferred to focus their social activities around their families and close friends.

Accessibility

Introduction

One of the key themes that came out of this study related to access to services and community activities. There were a number of factors identified that impacted access, including:

- the availability of services;
- having the skills to find services and coordinate them if required;
- having the financial security to be able to purchase services;
- motor vehicle driving or the availability of public or community transport;
- being able to manage chronic disease at home; and
- access to medical and specialist care as well as the financial security (including access to health insurance) to be able to access that care if needed.

Therefore, the presentation of qualitative data in this section uses three key sub-themes: paying for support, including preferences for paid services and types of paid services commonly accessed; older people's experience of motor vehicle driving or not driving; and finally, access to medical services, including access to both general practitioners (GPs) and specialist care.

Paying for support

This sub-theme related to access and preferences around paying for services and care.

Older people indicated that they were able to pay for support if they needed it, but adult children were usually involved in providing support or offering to help. Income levels were not specifically explored in this study, although some older people voluntarily alluded to their financial circumstances. There was a general view that assistance provided by adult children, such as home maintenance and gardening, was an extension of family life. That is, families helped each other out.

> *Probably a bit of both, like most times, if we need help with something, yeah it's either <name of daughter's husband> or <name of daughter> or our son <name> and his wife <name>, and we'll just ring up and say can you come out and give us a hand with, whatever, or if <husband> wants a lift of something, they'll like come and do it, but we have paid someone to come and, like, clean the gutters out and things like that, so, yeah.* (Peggy, 28:45)

It should also be noted that older people had sometimes relocated within the area to homes with lower maintenance requirements in preparation for being less able to handle these tasks themselves. There was no indication that older people would turn to friends or neighbours for this sort of assistance.

In summary, older people in family dependent support networks generally received assistance from family members with household maintenance and gardening jobs (where required). Older people were not sure what they might do about assistance for personal care (if the time came), although it was felt that this would be worked out with the help of adult children living in close proximity.

Motor vehicle driving

This sub-theme related to driving independence and reliance on others for transport. It also covered key aspects of people's experiences with public and community transport (where it existed).

Motor vehicle driving independence was considered important. Only one person in the interview group did not drive or own a car. For couples, there was the acknowledgement that as long as one person in the relationship was able to drive, then they were able to retain a substantial amount of independence. It was also clear that there was limited public transport in many of these communities. In the event of requiring transport support, older people would

either have to rely more heavily on taxi services (if they were financially able) or rely on the goodwill of their families and good friends.

> *Yeah, that would be tragic out here if you couldn't drive, you know, I mean, as long as someone that could drive, because it takes away a lot of your independence. But I would be the sort of person that could handle that, cause I am quite happy living out here, playing with me veggie garden and my animals and things like that, that keep me busy, there is a lot to do all the time here and I have bees and I am busy building stuff.* (John, 21:02)

> *I had to learn to drive since <husband> had the stroke <number> years ago. Normally, if we went to Melbourne, he would drive and I would be in the passenger seat, gazing around (smiles)… but since he's had the stroke, I 've had to drive, so I've had to learn to drive in <capital cities>… yeah, and I guess once we would have driven straight through but now (smiles), we know all the coffee shops along the way, and yeah, things change but yeah, I drive, so, but if I lost my licence, and living out of town, that would be dire straits, so I daren't lose my licence (laughs).* (Peggy, 30:24)

For older people co-located with adult children or considering co-location, it was clear there already was (or would be) ready access to transport from adult children if required. There was also evidence of older people sharing transport with friends to get to social activities. However, some older people had also considered the implications in losing a driver's licence and were prepared to accept holding a more limited licence to retain some independence. As Irma (39:20) explained:

> *I think I would be stranded, umm, living here. I can't see this is going to happen in the near future, but it's not that I think it's not going to happen… There's not much chop with public transport here but there is a taxi service… and then my daughter is driving, so, I wouldn't be stranded, but I would have to rearrange a few things… But what I know, um, is even if you can't go for long distance anymore, you can get a licence for short distances, if you live somewhere where you do need a car, so, most probably I could get a licence to go shopping for Bairnsdale, just for a stretch of road, from here to Bairnsdale and back.* Irma (39:20)

For Sean, who relied on driving to continue working, the implications of losing his driver's licence or his ability to drive other vehicles, were more significant.

> *Yes, I am concerned about that, because I remember when my Dad took the licence off my grandmother. I remember with Dad that we came to a gentleman's agreement … but it is a major difficulty, if you can't get around. It's something that's going to be a problem, and I've already thought about, but you don't know when it's going to happen…* Sean (47:48)

In summary, older *family dependent* participants were just as concerned as everybody else in this study when faced with the prospect of losing their driver's licence. Motor vehicle driving was considered a hallmark of independence. People who were older and starting to experience some mobility challenges, had investigated processes to receive a more restricted licence that still enabled a degree of independence. However, it was also evident that older people in this network type had ready access to transport through their families.

Access to medical care

Not surprisingly, one of the common subthemes in this research was access to services related to medical care. This section presents findings about older people's experiences of access to medical care, how far people had to travel to access medical care, and the implications of access to medical care on their ability to manage chronic illnesses at home.

In discussions about access to medical services, the general consensus was that acute services were good, specialist services would usually require travel to Melbourne, and local GP access was pretty good at the moment but may get more difficult in the future, especially for the communities outside of Bairnsdale.

> *It's hard to keep teachers here, it's hard to keep doctors here because there's nothing for them, there not a lot of professional people in town and now the <local industry> are closing down, there's not a lot of local work for those kids that are not academic and they have to leave town … we used to have a dentist here, but we don't now… once you lose these sorts of services, you never get them back.* (Peggy, 0:57)

The other two key points identified across this group of people were that service eligibility could be problematic for access to community care, and that access to private health

insurance may be an important factor in being able to attend to more urgent health needs. As two older men explained:

> *If I needed them <services> I would certainly fish around and see if I was eligible for them… Meals on wheels is in the community, there are different ones, because I went through all this with Mum and Dad. Like I got the home help ladies who would come here, I mean before my wife died, we had the home help in here and the nursing service in here and that sort of stuff. They're there, it's just a case of accessing them, and um, being eligible … the eligibility is another thing.* (Sean, 1:36:30)

> *I had to take out health cover to get my <body part> done, because I've never had health cover, you know, and you've gotta be in it for 12 months before you can make a claim, right, and I thought I might jump in the queue. I could get it done publicly, but probably take five or six years before I can get it done, and I'd probably be crippled by then, you know (laughs). So, to get it done, I had to get health cover, because of the costs of the hospital.* (John, 24:58)

In summary, access to services was sometimes complicated. Links to transport and timely access were commonly cited issues. Access to GPs was generally good across this group of people, which was a variation on this theme in the study so far. However, many older people in this group admitted to not requiring medical care often, so their experiences were coloured by this perspective.

Conclusion to Accessibility

All the older people in this network had both mobility and transport independence; that is, they were able to visit family and friends, do their shopping, and get to the hairdresser or to medical appointments. However, they all reflected on events that may impact on accessibility and what it would mean for them. There was clear evidence that local families, adult children, and grandchildren would provide more help if it was needed, particularly around home maintenance and gardening, shopping, and transport to medical care. Support from adult children to assist older people to maintain social activities and travel was less obvious, although older people felt that their adult children would provide support for these types of activities if they asked for help, but they preferred to remain independent for as long as possible.

Conclusion to the lived experience

Older people embedded in *family dependent* support networks had frequent contact with their relatives, especially adult children. There was regular contact with local friends, although the frequency of contact varied depending on personal preferences, and levels of community involvement were low. For those involved in community activities, there was a focus on a voluntary activity tied to previous work skills. Most of the older people in this network group enjoyed socialising with their families, and daily contact was common. Friends were also an important part of life for most older people, and social isolation from friends often contributed to feelings of loneliness. Older women indicated they also enjoyed catching up with friends on the phone, although this was not evident with older men, who preferred to have face-to-face contact.

Summary of the family dependent support network findings

Older people in this network type saw their locally based adult children at least two to three times a week and more often. Daily contact was common for many older people. Families, including siblings and sibling-in-laws, as well as good friends, provided a range of social support and were an integral part of older people's social lives. There was also evidence of robust intergenerational relationships with grandchildren, and social support provided by older people in the raising of grandchildren. While family relationships were close-knit, there was also a general sense from the interviews that relationships were mutually enjoyable.

There were clear patterns of mutual care and support within the immediate family unit, with ageing parents continuing to provide levels of care and support to their adult children in need. There was evidence that adult children were providing assistance with jobs (such as housework and gardening), but that this support was in lieu of rent or any other financial transaction. While none of the people interviewed were in high dependency circumstances, it was clear that older parents living alone felt that their adult children would provide greater assistance if they asked for it or if it was required (i.e., perceived social support). Similarly, for older people who were married, adult children were likely to provide additional support if and when it was required.

Finally, older people in this network type described lifestyles that showed reasonably high levels of emotional self-sufficiency. While older people may become more socially isolated once they are unable to move about their community (due to reduced mobility or the loss of a driver's licence etc.), it was clear that most older people embedded in this network type were

people comfortable with their own company. They enjoyed a variety of home-based activities; that is, they were not actively seeking to be involved in lots of community social activities, and levels of loneliness were generally low.

Community profiles

This section presents Australian research findings related to the Australian Wenger support network typology and provides a short presentation of the value associated with considering the proportions of the different network types in a given community. Therefore, in addition to generating an Australian Wenger support network typology for the study sample, a support network typology profile was generated for all ten study localities (see **Table 6.4**).

Table 6.4: East Gippsland Region: Community Profiles by Australian Wenger Network Type

Name of town	Description	Network Type					Totals
		Family Dependent	Locally Integrated	Local Self Contained	Wider Community Focused	Private Restricted	
Bairnsdale	Count	15	27	14	45	14	**115**
	% within network type	13.0	23.5	12.2	39.1	12.2	**100.0**
Paynesville	Count	5	17	10	50	20	**102**
	% within network type	4.9	16.7	9.8	49.0	19.6	**100.0**
Orbost	Count	6	8	1	7	13	**35**
	% within network type	17.1	22.9	2.9	20.0	37.1	**100.0**
Kalimna	Count	5	9	3	12	11	**40**
	% within network type	12.5	22.5	7.5	30.0	27.5	**100.0**
Eagle Point	Count	2	2	2	15	5	**26**
	% within network type	7.7	7.7	7.7	57.7	19.2	**100.0**
Swan Reach	Count	1	3	5	6	10	**25**
	% within network type	4.0	12.0	20.0	24.0	40.0	**100.0**
Swifts Creek	Count	1	0	2	6	2	**11**
	% within network type	9.1	0.0	18.2	54.5	18.2	**100.0**
Fernbank	Count	1	1	3	2	2	**9**
	% within network type	11.1	11.1	33.3	22.2	22.2	**100.0**
Omeo	Count	3	1	0	1	1	**6**
	% within network type	50.0	16.7	0.0	16.7	16.7	**100.0**
Ensay	Count	0	1	0	2	2	**5**
	% within network type	0.0	20.0	0.0	40.0	40.0	**100.0**
Study sample typology for reference	Count	**40**	**69**	**41**	**147**	**82**	**379**
	% within network type	**10.6**	**18.2**	**10.8**	**38.8**	**21.6**	**100.0**

The construction of Australian Wenger support network typologies across the ten different localities (as per Table 6.4) highlighted the diversity of social support patterns that exist between older populations in different communities. For example, there were two medium-

sized (or mid-sized) 'retirement' towns included in this study, Paynesville and Orbost, but there were key differences in the proportion of network types found in both of those towns.

As per Table 6.4, there were higher proportions of *locally integrated,* and *family dependent* network types in Orbost compared to Paynesville. This suggested that older people living in close proximity to adult children and other relatives in Orbost, were either:

- long-term residents of the community, with relatives who are also long-term residents of the town; or
- long-term residents of the community, with relatives who had moved closer to them (i.e., adult children moving closer to their parents, or siblings moving closer to each other, etc.); or
- retirement migrants who had moved to be closer to relatives (who were long-term residents of the town).

Importantly, network typing was able to help interpret these in-migration and out-migration patterns and provide key information about older people's access to social support from their families and relatives. For example, regardless of whether older parents had migrated to live closer to adult children, or adult children and their parents were long-term residents of their communities, in either case, 40% of older people in Orbost had ready access to social support from proximal kin, compared to only 22% of the older people who lived in Paynesville.

These two retirement destinations also had differing proportions of *wider community focused* support networks and *private restricted* support networks. There was a high proportion of older participants from Orbost embedded in *private restricted* support networks compared to Paynesville (38% versus 20%). Conversely, there was a higher proportion of older participants from Paynesville embedded in *wider community focused support* networks compared to Orbost (49% versus 20%, respectively). So, while both groups of older people lived geographically at a distance from their relatives, their access to social support from others, such as friends and neighbours, was different. As shown earlier in this thesis, older people in *wider community focused* support networks were likely to engage in both social and community activities and have a large network of friends. Therefore, as per Table 6.4, 50% of older participants in the Paynesville locality were likely to have access to the social support of friends and neighbours, while 40% of older participants in Orbost were not, noting the subset of older Australian men who may have greater access to social support than older Australian women in this network type. Importantly, for people ageing-in-place, there was

likely to be a heavier reliance on formal services in Orbost compared to Paynesville for the sorts of things friends and neighbours may be able to help with, such as transport to the shops or to medical appointments.

In summary, the construction of a community profile using the Wenger *PANT* and then looking at older populations through a support network typology lens, provides information about the likely levels of social support available for older people and reciprocally, from older people to their families and communities. This research confirmed that older people embedded in *wider community focused* and *locally integrated* support network types were more likely to participate in formal volunteer roles, while those in family-focused networks (e.g., *family dependent* or *locally integrated* support networks) were more likely to be supporting adult children with disabilities or helping to raise grandchildren.

Utility of the Wenger PANT

This research set out to explore the key features and characteristics of the Wenger *support network typology* in a rural Australian population. This research did not set out to undertake a formal internal validation of the Wenger *PANT* tool (such as Szabo et al., 2016) or determine the ways in which the tool could be modified for a clinical or practice setting (e.g., testing a reduction of existing questions etc.). However, some research findings that related to the effectiveness of the network questions and demographic profile trends observed in previous Wenger research are presented here.

Firstly, demographic variables such as longer-term residency and more advanced age were more prevalent in the Australian family-focused network types (*Kruskal-Wallis* tests $\boldsymbol{p = .008}$ and $\boldsymbol{p < .001}$ respectively), which is consistent with previous research (such as Wenger, 1991, 1994; Wenger & Tucker, 2002; Wenger et al., 2007) (see **Appendices 29, 30, 33, and 34**).

Secondly, the proximity to relatives and frequency of social contact were both important factors for interpreting social support availability, and all eight Wenger network questions were found to be statistically significant (*Chi-Square* tests, $\boldsymbol{p < .001}$) in relation to support network type (see **Appendices 31 and 32**).

Finally, the additional questions tested in this research in relation to communication methods (i.e., telephone or ICT use) were found to be significant by network type for telephone calls with relatives (χ^2 (4,379) = 29.215, $\boldsymbol{p < .001}$) and with friends (χ^2 (4,379) = 20.959, $\boldsymbol{p < .001}$)

and for ICT use with friends (χ^2 (4,365) = 12.366, ***p* = .015**) but not for ICT use with relatives (χ^2 (4,371) = 8.319, p = .081).

Additionally, the communication variables were found to support the distinction between network type as determined by the Wenger *PANT*. For example, the regular telephone contact and ICT use between older people and their families highlighted the active relationships found in the *wider community focused* support network type.

However, this preliminary research evidence did not suggest that this information would make a material difference in network type assignment. That is, adding any one of the four communication questions would make the existing tool longer without any perceived advantage of providing greater utility in the distinction of network type.

Therefore, in conclusion, the Wenger *PANT* provides significant utility in identifying different lifestyle preferences for an individual, as well as providing a way of understanding levels of access to social support in older populations. Given the diversity of older populations, and the increasing migration patterns found in rural Australia, tools like the Wenger *PANT* provide useful information to inform service planning and policy making. Adoption and further development of this tool in Australian settings may improve service provision and healthy ageing policies for older rural Australians.

Summary of the second results chapter

The family-focused support networks were presented in this chapter. with larger Australian Wenger *locally integrated* support network (18% of the sample) being first, followed by the two smallest (least populous) networks, the Australian Wenger *local-self-contained* and *family dependent* support networks (both 11% of the sample respectively). The majority of older people in these networks had adult children and grandchildren living in proximity (e.g., in shared households or within 20km to 40km away), due to the long-term residency of parents, or due to the migration of older parents or their children to live near each other. The core features of these support networks were a good reflection of the Wenger network types. Specifically, the distinction between these three networks related to levels and types of community engagement (from *locally integrated* the most engaged through to *family dependent* the least engaged), and frequency of contact with relatives (from *family dependent* having the most contact through to the *local self-contained* having the least contact).

The creation of community profiles demonstrated the value of support network typing for service planning, and the four new communication variables tested in this research were concluded to be unlikely to add value to the existing Wenger *PANT* instrument.

Chapter Seven: Discussion

Introduction

Support network typing, and in particular the Wenger *Support Network Typology*, provides a robust framework for understanding the social support available to an older person and the 'actors' within their social network who are motivated to provide support. This makes support network typing a useful tool for service providers as well as policy makers, in both supporting the clinical care of older people and for health and aged care service and workforce planning.

An Australian Wenger *Support Network Typology* was derived as part of this doctoral research, and its integrity and usefulness for understanding help-seeking behaviour in later life will be discussed in this chapter. To assist in framing the discussion, this doctoral study set out to answer three research questions as follows:

- Is the Wenger *Practitioner Assessment of Network Type* instrument able to successfully allocate older people living in rural Australian communities into the Wenger *Support Network Typology*? That is, is the Wenger *Practitioner Assessment of Network Type* Instrument effective for use in an Australian population?
- Is an Australian *Support Network Typology* consistent with the Wenger *Support Network Typology*? That is, are the support network characteristics in an Australian cohort similar or different to the Welsh cohort?
- How can understanding the help-seeking behaviours of older rural Australians be used to inform (and improve) Australian service planning for older people?

The discussion of the research findings from this study will be made in relation to the literature presented in Chapter Three, and where appropriate, to social network theory, as presented in Chapter Two. This chapter will also discuss assumptions about the lifestyle choices of older people living in rural Australian communities and why some findings present future research opportunities.

The Australian support network typology

The rural Australian Wenger s*upport network typology* (the Australian typology) was successfully derived by the application of the Wenger *Practitioner Assessment of Network Type* instrument as part of this doctoral research. That is, 95% (n=379) of the rural Australian study cohort, was successfully allocated to one of the five distinct Wenger support network types: the *family dependent* support network (11%, n=40); the *locally integrated* support network (18%, n=69); the *local self-contained* support network (11%, n-41); the *wider community focused* support network (39%, n=147); or the *private restricted* support network (22%, n=82). This result was considered robust and consistent with the Wenger allocation process (Wenger 1994, 2002, 2007; Burholt & Sardani, 2018) with only a small percentage (5%) of individuals returning an inconclusive result.

In comparing the Australian typology with previously reported Welsh typologies, there were key differences in the proportions of older people in four of the five network types. For example, the proportion of older Australians embedded in *wider community focused* support networks was much larger in comparison to *wider community focused* support networks in rural Wales (39% compared to 22% (2015 data) and 17% (1987 data) respectively) and the proportion of older Australians embedded in *locally integrated* support networks much lower in comparison (18% compared to 32% (2015 data) and 33% (1987 data) respectively) (Burholt & Sardani, 2018; Wenger, 1990). Burholt & Sardani (2018) found evidence to suggest that the shift in the Welsh typology between 1987 and 2015 was largely the result of increased retirement in-migration to rural Wales, especially into coastal communities. Therefore, it could be suggested that there was even greater retirement in-migration in rural Australia compared to rural Wales. Certainly, earlier evidence from research comparing internal migration patterns between Australia and the United Kingdom (UK) found that Australians had a higher propensity for migration and on average made double the number of moves compared to people in the UK (Bell et al. (2002). Specifically, Bell et al. (2002: 459) found that Australians migrated greater distances than people in the UK; Australians were more likely to move in retirement than in middle age; and migration in Australia generated "a much greater redistribution of population because if its higher intensity".

The present findings also share some similarities with previous international comparisons. Wenger et al. (2007) using Australian (urban Adelaide) survey data, compared the network typology in urban Australia with other typologies of older populations in Europe, Israel,

Japan, and the United States, found evidence of considerable levels of Australian migration away from families in retirement. Specifically, that Australia had a higher proportion of *wider community focused* support networks compared to each of the other countries included in the comparisons, including the UK (Wenger et al., 2007). Furthermore, Wenger et al. (2007) noted that "Australia is a large country with a low population density and a large immigrant population. It is also a geographically mobile population." They pointed out that while these characteristics should explain the large proportion of friendship and long-distance family ties lifestyles in Australia, other countries such as the United States, with similar geographical characteristics, did not generate a similar support network typology. Therefore, they were unable to offer any definitive result for this larger than expected proportion of *wider community focused* support networks in Australia. Another key difference between Australia and all other countries being compared in this study, was the level of childlessness in the Australian *wider community focused* support network type (Wenger et al., 2007). Wenger et al. (2007) found that in all other countries compared, childless older people were concentrated in more restricted support network types (such as the *local self-contained* or *private restricted* support networks). This finding had important ramifications for access to social support. In fact, much of the Wenger et al. (2007) research study findings exploring social support vulnerability differences for parents and childless older people were not considered applicable by the researchers for an Australian setting.

A recent review provides additional new information that is relevant to interpreting the research findings of both older research findings and the findings in this doctoral study (Fiori, Windsor & Huxhold, 2020). Fiori et al. (2020: 286) found that there was growing importance in friendships in recent generations of older adults, and this change was “in line with demographic trends and historical increases in the diversity of social structures”. That is, the increasing diversity of social structures, including educational and other socioeconomic inequalities, may be influencing the changing trends in friendship and social ties. Certainly, for more marginalised groups, such as the LGBTQI+ community, friendships have been identified as crucial for ageing well (Dakin, Williams & MacNamara, 2020; Kim et al., 2017; Hawthorne et al, 2018). Therefore, the contemporary social structure in Australia is likely to be contributing to an increased level of friendship ties in later life, which in turn is influencing Australian migration patterns in retirement. This provides supportive evidence for the high proportion of older people in the Australian *wider community focused* networks found in this doctoral research, noting the level of social structural change that has occurred

over the last forty years in Australia. It may also help to explain why the shift found in the support network typology of the Welsh population between 2015 and 1987 is also consistent with increased migration into rural Wales but may also be a reflection of the changing social structure in the UK.

Finally, Wenger (1991) found that the *wider community focused* support network type is also considered a middle-class adaptation. Specifically, higher socio-economic status and social mobility is thought to facilitate wider engagement with diverse networks through an outward-looking approach to life as well as greater access to and utility of new information. In this study, there was a high level of education measured across the study cohort, with nearly one third of participants educated to a tertiary level qualification (university degree) or post-secondary Technical and Further Education (TAFE) certification. There were also gender differences in this educational status, with more older women than older men being university qualified and more older men being TAFE certified. Therefore, the high proportion of *wider community focused* support networks in this rural Australian cohort could also be attributed to the size of the highly educated middle-class cohort who lived in this region.

Therefore, it was concluded that the typology found in this Australian research is consistent with the geographic mobility and migration trends inherent in Australian populations, which are also a reflection of the increasing diversity of Australian social structures and the growing importance of friendships in later life. Importantly, the construction of a support network typology for an older population offers useful information about access to social support, making it a valuable tool for service planning. However, before an exploration of the utility of a network typology in service planning is undertaken, the characteristics and features of the Australian typology need to be discussed. So, the next section in this chapter discusses the similarities and differences in the features of the Australian network types found in this study compared to the Wenger network types as described in earlier research. Of note, these core features have been assumed to be unchanged in other support network studies.

Network Characteristics

Australian wider community focused support networks

The Australian Wenger *wider community focused* network was consistent with the key characteristics and core features of the Wenger network; specifically, this network comprised older people with strong retirement migration, a high level of contact with friends, and a

general involvement in community and voluntary organisations. This network type is considered a diverse network, with many network ties and a greater adaptability to change due to the decentralised nature of diverse networks (Shiovitz-Ezra & Litwin, 2011; Kadushin, 2012). Retirement migration was common, and *wider community focused* participants maintained active relationships with geographically distant relatives (including adult children and grandchildren) through regular telephone calls and ICT contact, as well as occasional face-to-face visits. While poorer health was found to somewhat limit contact with friends, older Australians were found to moderate their social activities and stayed connected with organisations like Probus well into their 90s (providing access to trips and outings as well as monthly meetings with guest speakers). Fiori et al. (2020) have shown the growing importance of friendships in later life and the social mobility of Australians due to the increasing diversity of social structures in modern life. Older research has consistently shown the importance of friendships and peer-age relationships for morale and companionship in older age (Litwin, 2001; Wenger, 2008). Older people in *wider community focused* support networks were also likely to get involved in community and service organisations, which Warburton & Winterton (2017) identified as important for the sustainability of rural communities.

Finally, older Australians in this network type were typically independent, which Wenger (1994) describes as a lifelong adaptation. Older *wider community focused* participants were able to pay for services, had access to private cars and transport through friends (even following the loss of a motor vehicle driver licence) and had the financial means to procure health insurance to support better access to health care services as required. This accessibility to robust social support and services highlights why social support network research consistently finds good health and wellbeing outcomes for older people embedded in diverse networks (World Health Organization, n.d.).

Australian private restricted support networks

This network type showed some differences in the core features of the Wenger network. Wenger (1991, 1994) identified two subgroups that comprise this network type: independent couples who are usually retirement migrants and are primarily involved with only one another; and older people who have no surviving local ties, or who have withdrawn and become isolated from local contacts. In this doctoral research, older male participants were found to have frequent contact with neighbours and friends (several times a week or even

daily contact for some participants) which was not consistent with the Wenger features of this network type. However, given the high levels of migration found in the Australian cohort, Wenger's research on the change and adaptation of support networks proved to be crucial in the interpretation of these research findings (Wenger, 1990).

Wenger's research on network transitions found that while most support networks were stable over later life, a small number did make predictable transitions to other network types when personal or lifestyle circumstances created significant changes in access to social support. For example, Wenger (1990) found five types of network shifts in older populations, of which two of the most common ones were the transition from a *wider community focused* to *private restricted* support network and from a *private restricted* to *wider community focused* support network. In this doctoral research, there were two good examples of older *private restricted* male participants who appeared to be in network transition. At interview, both men revealed that they had been members of various social clubs and community organisations in the past and enjoyed spending time socialising with friends. Specifically, one older man had become increasingly housebound over recent years due to caring responsibilities for a severely disabled wife, reflecting the potential transition from a *wider community focused* to *private restricted* support network during those years. The other male participant had only recently moved into the area following divorce and was in the process of building his social network in a new place as a single man. He appeared to be in transition from the *private restricted* to a *wider community focused* support network. Given the high level of migration and varying levels of loneliness found in the Australian *private restricted* support network, it could be reasoned that other men in this study (that did not align well with the two Wenger subsets of this network type) may also be in network transition. However, further qualitative research with older Australians embedded in *private restricted* support networks would help to establish more definitive conclusions about whether the research on network transitions fully explains this increased social contact or whether there is a new subset within the Australian *private restricted* network type that is not present in the Wenger network.

Nevertheless, after removing this subset of people, there were clear lifestyle patterns in the *private restricted* network type consistent with key Wenger core features – older people who lived alone, often with a pet for company, who preferred a low level of social contact, as well as older couples who were found to socialise occasionally with local friends, or visit lifelong friends and family in other communities, but who otherwise were primarily involved with only one another. This highlights that while restricted network types are considered the most

vulnerable to changes within the network membership, there were older people *ageing well* in these network types in recognition of their personal preferences for reduced levels of social contact and interaction with others. This research did find that older *private restricted* people, especially older people living in smaller communities like Ensay or Fernbank, generally relied heavily on one other person to maintain their lifestyles. It is clear to see that with the loss of that important network tie (spouse or friend), finding alternative social support resources for these older people looked very different compared to older people embedded in *locally integrated* support networks.

Australian locally integrated support networks

The core features of the Australian network types were largely consistent with the Wenger typology. As diverse networks are made up of many network ties, *locally integrated* support networks are also considered a robust network associated with better health and wellbeing compared to more restricted networks. Key trends confirmed through the qualitative research were the high levels of social contact and active relationships older *locally integrated* people had with network members, and the clear patterns of reciprocity between older people and their neighbours and friends. In a similar manner to *family dependent* support networks, relationships with relatives were generally lifelong relationships of mutual support, with social capital built over the life course and reciprocity in older age often based on past contributions, not just present contributions. This was found to be consistent with the research on social capital and the social convoy model of social relations over the life course (Gray 2009, Antonucci et al. 2010).

However, one of the differences found in the Australian *locally integrated* support networks compared to the Wenger network was the higher than expected level of migration found within this network type. Wenger (1994) characterised older, *locally integrated* people as being longer-term residents of their communities and to have raised children in the same community. Other relatives of a similar generation (siblings and cousins) as well as younger generations (children, nieces, nephews and grandchildren) were also likely to be living locally and to be well known to each other. In the Australian cohort, older people who had migrated had often come from smaller towns or off farms within the East Gippsland region to live in the larger towns. Many *locally integrated* participants were settled in the regional centre of Bairnsdale. There was also evidence that some older people had returned to communities they had grown up in or where they had visited grandparents in early life, that

is, the connections to place were still evident. Civic engagement and involvement in community activities was also a common feature of this network type.

Finally. consistent with the Wenger network type were the high morale and low levels of loneliness and social isolation found across the network. Older people were also found to have a variety of home activities they enjoyed when they spent time alone, but were generally viewed as people with outward and engaging personalities in regular contact with friends and neighbours.

Australian local self-contained support networks

One of the key trends in the *local self-contained* support network was the undemanding relationships older people appeared to have with family and friends. In the qualitative data, it was clear that *local self-contained* participants enjoyed seeing their families but did not like to be too intrusive in their children's lives. There was a mantra in this network type of self-reliance ("we don't live in each other's pockets"). Wenger (1994) also found self-reliance to be a core feature of *local self-contained* support networks. Wenger (1994:18) also found that older people with household focused lifestyles "often reflected a retiring personality". New research by Wicks (2019) which showed how decision-making in seeking help impacted morale, was particularly pertinent for older people in this network type. Wicks (2019) found that older people only asked directly for help when they felt able to reciprocate in the usual way; otherwise, they hinted and waited for offers of support before accepting it (Wicks, 2019). Wicks (2019) explained that the actual process of asking directly for help may create increased vulnerability and feelings of incompetence ("I need help because I cannot cope"), which in turn negatively impacted morale. Zee & Bolger (2019) also found that morale was affected if members of the informal network provided help that was delivered in a way that made people feel incompetent. However, they also found that if help was provided in a way that made people feel cared for (as opposed to incompetent), morale could be maintained. (Zee & Bolger, 2020). Certainly, from the interviews in this research, older people in *local self-contained* support networks communicated that they would not like to become too dependent on their families (or burdensome) and expected to go into formal care when they needed too much additional support from outside the home to maintain everyday life, or for couples, when life at home became too much for their spouses or partners.

The levels of community involvement for older *local self-contained* participants in this research also varied from the Wenger typology. Older Australians in this network type who

indicated some participation in social and community activity, were either engaged in weekly social activities with friends (but not in social clubs) or were engaged in purposeful and civic engagement. The most common civic engagement was membership in Landcare groups or other rural environment groups involved in caring for the land. However, it should be noted that these types of activities were more akin to work environments and had less reference to social support. Certainly, older *local self-contained* participants interviewed indicated that they did not socialise outside meetings or consider other people within those groups to be friends. Sometimes other members were neighbours and as neighbours they had more to do with each other. Wenger (1994) identified the importance of neighbours for older people in this network type, especially for older single people living alone.

Neighbours and friends were found to be important in the Australian typology for many older *local self-contained* participants. For older single people (widowed, not married or never married), relationships with neighbours had in some instances developed into friendships. As shown in earlier sections of this chapter, friendships were important for morale and companionship, which was no different for older people in this network type. In the Australian typology, there were higher than expected levels of migration given that older people lived in proximity to relatives. However, as shown in this research older people were found to be moving in retirement to the larger towns to be closer to relatives and services. Therefore, the core feature of living in proximity to relatives and local friends, and having regular, but not too frequent contact, was consistent with the Wenger network typology.

Australian family dependent support networks

The core characteristics of the *family dependent* support network found in the Australian typology were largely consistent with the key features of the Wenger network type. For example, families were pivotal in the social lives of older people in *family dependent* support networks. Social contact for older people in these networks was primarily with family members, and daily contact with adult children or grandchildren was common. This was unsurprising when one of the clear trends to come out of this research on older people embedded in *family dependent* support networks was the mantra of mutual support ("families help each other"). Network members were found to provide both emotional and instrumental support to each other. While older people were often looking after grandchildren, there was also lots of enjoyment in the relationship from the perspective of the older person. Several older people in *family dependent* support networks were also found to be assisting adult

children with short-term accommodation needs. A range of instrumental support was provided in exchange for that support (e.g., meal preparation, housework, garden maintenance etc.).

Importantly, these existing patterns of support suggested that instrumental and emotional support would be forthcoming for older people in a time of need. Certainly, older *family dependent* participants interviewed believed support would be forthcoming from family members should their personal circumstances change in the future. Research has found that perceived support is often a good predictor of received support (Holt-Lunstad & Uchino 2015), so this appears to be a reliable expectation. Also, the patterns of support evident in this Australian network type are consistent with the notion of social capital as presented by Gray (2009), who highlighted that older people may be able to rely on support in later life through the social capital they had built over the course of their lives. In the case of *family dependent* support networks, this was also possible because of the proximity in which older people and their adult children, grandchildren, and siblings lived from each other. Older *family dependent* participants generally lived in larger communities where children and grandchildren worked or attended school. This Australian network type also showed the highest level of long-term residency when compared to all other network types across the Australian typology (M = 38.98 years, SD = 25.239).

Finally, spouses and friends were also found to be important for morale and companionship. For those few older *family dependent* participants in this research who were both widowed and socially isolated from friends, there was loneliness. For most older people in this network type, there were low levels of loneliness. Interestingly, the age and health profiles of the Australian *family dependent* network in the East Gippsland community sample were not typical of the Wenger typology. Wenger (1994, 2002) found the oldest people and often the people in the poorest health in this network type in her typology. In Australia, the *family dependent* cohort was younger and had similar health status patterns compared to the other network types. This research was able to demonstrate that this network type did exist in early retirement and that patterns of mutual social support in families were clearly evident.

Service planning considerations

Migration in later life

Retirement migration was very prominent in this research. It was not surprising to find a high proportion of older people settled in the mid-sized coastal town of Paynesville, a well-known retirement destination. However, support network typing gave a more sophisticated understanding of retirement migration patterns in East Gippsland. For example, older Australians in *wider community focused* support networks were more often found in Paynesville, seeking socially active friend-focused lifestyles in retirement, while older Australians embedded in *private restricted* support networks were settled in both large and small communities, enjoying individual pursuits in retirement. That is, while older people in both network types had moved to rural settings in search of a better climate, cleaner air, and less traffic, they were also seeking different lifestyles. Older people in these networks had often made a deliberate decision to move away from adult children and grandchildren in retirement (Wenger et al., 2007).

In contrast, older Australians embedded in *locally integrated* and *local self-contained* support networks, had migrated in retirement to be closer to relatives. Older people had moved from smaller towns and farms into larger towns within the region, or from Melbourne or interstate, to be closer to their adult children and grandchildren. While patterns of contact with neighbours and involvement in community activities looked different for older *locally integrated* participants compared to older *local self-contained* participants, migration patterns for older people in both network types were often associated with caring for grandchildren.

Service planners need to be mindful that, because of these different motivations for migration, greater retirement migration into a given area does not necessarily translate into increases in civic participation. As Winterton and Warburton (2017:137) point out, "volunteering is not for everyone and should be obligation-free", while acknowledging that there is often a greater reliance on volunteers in rural communities for basic service provision. It has also been shown that expectations of participation may present some risks to the health and wellbeing of both older volunteers (in terms of pressure or stress to participate) and the older people reliant on those volunteer services (Warburton & Winterton, 2017). Support network typing can be used to better identify who may be more motivated to engage in community and civic activities. Support network typing can also be used to estimate the level of important, but less visible, social and community contributions. For example, in this

research, older Australians were found to be supporting adult children with disabilities, caring for grandchildren, supporting their older neighbours with everyday life, and contributing to the local economy.

Migration patterns also created changes in the availability of social support for older people. In this research, older people in *wider community focused* support networks were found to grow their networks quickly with new friendship ties (somewhat compensating for the loss of local family ties), while older people in *private restricted* support networks were found to rely heavily on one or two key people. This meant that some older people continued to have access to robust social support in times of need, while others did not. This was consistent with earlier research and in keeping with social network theory and the concept of network robustness, where those with larger, more decentralised networks (e.g., *wider community focused* support networks) adapt well to network changes (Barr & Russell, 2007; Kadushin, 2012; Wenger 1991). Bereavement was also found to trigger migration patterns back to families for some older people in *wider community focused* and *private restricted* support networks. This was not only following the loss of a spouse or partner (widowhood) but also following the loss of good friends and neighbours (i.e., changes in the neighbourhood).

Wenger (1990: 386) found that "because loss of individuals from the community (by death and entry to residential institutions) is greater amongst those with the more vulnerable networks, the distribution of network type in the community remains stable." However, this finding may be more relevant in stable populations. That is, where there are higher proportions of *locally integrated* and *family dependent* support network types. In a larger, more mobile population like rural Australia, network transitions may be more prevalent. Further research exploring the Australian typology at more than two timepoints (qualitative longitudinal studies) will provide more robust evidence about the prevalence of network transitions in rural Australian populations.

Widowhood

In this research, older people in *local self-contained* and *private restricted* support networks were found to be the most vulnerable in widowhood because they relied heavily or exclusively on a spouse or partner for social support in everyday life. In addition, as Wenger (1994:19) explained, the image of self-reliance (and not being a burden) for older people in *local self-contained* support networks meant they "were more likely to conceal difficulties and attempt to deny problems which they cannot resolve themselves". Similarly, older people

in *private restricted* support networks were found to resist or reject offers of help from neighbours who, due to their proximity, often saw difficulties arise before anyone else (Wenger 1994).

In failing health and bereavement, older people in *local self-contained* and *private restricted* support networks often became heavy users of domiciliary services or required admission to residential care, especially with the onset of mental illnesses (Wenger, 1994). Wenger (1994:22) also noted that older people in *private restricted* support networks were "substantially over-represented on the caseloads of social workers and amongst hospital admissions for social reasons". This finding was consistent with later research by Wenger & Tucker (2002) during their evaluation of the effectiveness of the Wenger *PANT* in social work practice settings.

Current Australian aged care policy is focused on supporting people to stay living in their own homes for as long as possible. However, regular service provision in the mid-sized and smaller rural towns was not considered reliable by some older Australians (in *local self-contained* and *private restricted* support networks) living with chronic illnesses. Therefore, they expected to move into residential aged care ("the local nursing home") following bereavement. That is, even with the support of additional services, they felt that without their spouse they would be unable to remain living in the community on their own. It was also clear from the interviews that some of them were already finding the tasks of everyday life difficult, even with the considerable support, and, in some cases, the care of spouses.

For older Australians in *locally integrated* and *family dependent* support networks, social support from families and friends in bereavement was welcomed, as was the support of friends and neighbours for older bereaved people in *wider community focused networks*. Support network typing provides greater visibility of who may be more vulnerable in bereavement, which may assist service providers in the better allocation of services.

Childlessness in older age

There has been considerable research focusing on the implications of childlessness in later life (Deindl & Brandt, 2016; Gironda et al.,1999; Křenková, 2018; Penning & Wu, 2014; Wenger, 2001c; Wenger, 2009; Wenger et al., 2000; Wenger et al., 2007). In this research, childless older people (n=20, 5%) were found in four of the five network types: *locally integrated* support networks (n=1, 1%); *local self-contained* support networks (n=3, 7%); *wider community focused* support networks (n=8, 5%); and *private restricted* support

networks (n=8, 10%). Wenger (1994) noted that childless older people are usually found in the more restricted network types (e.g., *private restricted* and *local self-contained* support networks) due to the much smaller number of family network ties. Research has consistently found that ties with family members are usually the most robust ties in the face of poorer health and increasing levels of support and care because of filial obligations (Keating et al., 2003; Mugford & Kendig, 1986; Wenger et al., 2008). However, as shown earlier in this chapter, in comparing the differences in support network types between parents and childless older people in nine countries around the world, Wenger et al. (2007) found support network typologies that were consistent, except in Australia, where a greater number of childless older people were found embedded in *wider community focused* support networks. These findings suggest that in Australia, a greater number of childless older people will be able to rely on supportive friendships in later life in much the same way that older people in other countries rely on their families.

Interestingly, while older people in *private restricted* support networks are often considered to be the most vulnerable to a lack of social support in later life, in this research, 25% of the oldest people (aged 90 – 96 years) were childless older *private restricted* participants (men and women). This highlighted the fact that older childless people in more restricted support networks can still age well in rural communities. It should be noted that the high proportion of older men found in this age group relative to older women may be a reflection of the over-sampling of older men in this research study. Importantly, further analysis showed that consistent with the social determinants of health, the oldest people in this rural Australian research cohort had strong social engagement patterns (i.e., were regularly involved in social and community activities and saw friends regularly), highlighting the importance of social relationships for health and wellbeing in later life (World Health Organization, 2019; Davis & Bartlett, 2008). Of note, all childless people aged 85 years and older were living in the mid-sized towns of Paynesville and Orbost or the regional centre of Bairnsdale, and those in *wider community focused* support networks were more likely to be long-term residents of their communities.

The types of activities and social engagement patterns of different support network types have been discussed in other parts of this thesis; therefore, the benefits of support network typing should enable service planners to better tailor social engagement activities to promote healthy ageing for childless older people.

Older carers

Caring responsibilities for some older men in Australian *family dependent* and *private restricted* support networks had created social isolation from friends. In keeping with earlier research (Klein Ikkink & van Tilburg, 1999; Jerrome & Wenger, 1999; Keating et al., 2003), friends were found to pull back from relationships with people who became, or were perceived to be, less able to reciprocate in relationships. This finding was also consistent with previous Australian research (Kendig et al., 1986) which highlighted the importance of wives in helping to keep older men socially connected. Looking through the lens of a network typology, older carers experiencing social isolation were often embedded in, or in transition to, more restricted network types (i.e., *local self-contained* or *private restricted* support networks). Importantly, for older people who were transitioning from *wider community focused* support networks to *private restricted* support networks, the impact of social isolation may be greater than for older people already embedded in *private restricted* support networks, due to lifelong preferences for social contact and therefore resilience and adaption to spending time alone.

However, of importance for service planning consideration is the recognition that for older carers there is only limited time available to participate in social activities. For example, as one older *private restricted* man in this research study (who was homebound with a severely disabled wife) communicated in his interview, any social activities of interest were all scheduled at times when he was unable to access carer support. Therefore, service provision for older carers needs to consider the timing of social activities as well as the availability of social activities (in a given community) to encourage participation.

Reciprocity in social support

This Australian research found that patterns of reciprocity were tied heavily to support network type. Networks where lifelong exchanges of reciprocity were exhibited, such as the *locally integrated* and *family dependent* support networks, appeared to be less disrupted by changes in social support capability. The concept of social capital as described by Gray (2009) was evident in family-oriented support networks. Older Australians in *locally integrated, local self-contained* and *family dependent* support networks, displayed mutual social support patterns. As Dykstra (2015) points out, more support tends to go down the generational line than it does up over a lifetime, in recognition of the level of support provided by older parents to their children and families over their lifetimes. The recognition

of the contribution by older people to their families and communities has also been supported by other researchers (Cooney & Dykstra, 2011; Keating et al., 2003; Mugford & Kendig, 1986).

Further evidence of the concept of social capital in understanding social support in later life was found in qualitative research by Dunér & Norström (2008). They found social support could emerge years later in recognition of contributions made by the older person when they were younger and more vigorous.

So, while interventions to enhance social capital may be considered a good way to support ageing communities (Glass, Freedman, Carlson et al., 2004; Murayama, Kondo & Fujiwara, 2013), support network typing provides service planners with a more sophisticated understanding of where efforts may be most effective. Strategies to build social capital in *family dependent* and *locally integrated* support networks (e.g., those who are already oriented to mutual social support) may be less valuable than focusing on efforts to enhance social capital for older people embedded in friend focused or more restricted support network types.

Family estrangement in later life

This was a small but clearly visible trend within this study. Older people estranged from their families and other social contacts were primarily found in the *private restricted* network type. For example, one older *private restricted* male participant had relocated away from his spouse and stepchildren following the breakdown of his intimate relationship. Over time, his relationships with his stepchildren had deteriorated due to a lack of regular contact, creating considerable anxiety. As an older person in a *private restricted* support network, he had limited support from others to assist him in solving his problems. In addition to intimate relationship breakdowns, other causes for family estrangement that were evident in this doctoral research related to disagreements around financial outcomes in relation to wills and gifts and the breakdown of sibling relationships. The breakdowns in the relationships between brothers were usually traced back to incidents from early middle age or even early adulthood. A number of older men in four of the five networks revealed minimal to no contact with a brother (e.g., *local self-contained*, *locally integrated*, *wider community focused*, and *private restricted* support networks). Importantly, network type helped to identify some key differences regarding the impact of family estrangement on each of these older people and the levels of social support that may or may not be available.

Losing touch with siblings did not noticeably impact the levels of social support available to older people in *locally integrated* or *wider community focused* support networks. They were found to have good relationships with their children as well as with friends and neighbours. However, for older people in *private restricted* networks, the loss of key social support ties in earlier life also had ramifications for the social support available in later life. Therefore, network typing provides social care service providers with a useful tool for measuring social risk factors in later life. As shown in the previous section, the identification of older people in *private restricted* support networks is particularly important in efforts to build social capital in older age.

Use of telephones and information and communication technology

There is increasing interest in the impact of telecommunications developments (e.g., moving away from landlines to mobile phones) and broader advances in information and communication technology (ICT) (Baker et al., 2018; Burholt et al., 2020). However, there is also broad acknowledgement that access to robust telecommunication and ICT infrastructure in rural areas is more difficult than in urban areas (Berg at al., 2017; Wilken et al., 2014). There have also been commitments from successive Australian governments over recent decades to improve access to these services in rural Australia. The rollout of the National Broadband Network (NBN) has been in progress for many years, with various iterations on the timing of NBN connectivity in different communities. The advent of COVID in early 2020 put further pressure on NBN roll-out timelines to ensure access to health and medical services (e.g., telehealth appointments).

In this research, older people were heavy users of telephones (both landlines and mobile phones) and information and communication technology (ICT). Telephones and ICT use offered older people ways of staying in touch with family and friends. Given the high levels of migration found in this study and the high proportion of older people living geographically distant from families, being able to stay in touch with adult children and siblings between face-to-face visits was important. For older people with family and friends living in proximity, patterns of telephone and ICT use were similar. In fact, telephone and ICT use was found to be greater among older people and their families and friends living in proximity than with those living further away. Recent research by Burholt and colleagues (n.d.). also found this trend in communication use, suggesting that people living in close proximity to each

other have a greater need to communicate more regularly than those living further away (e.g., organising activities or outings).

Earlier research in Australia, in a review of studies looking at the use of technology in older age, found that social outcomes of technology use were not easily interpreted due to variations in the study methodologies used (Baker et al., 2018). In more recent research, Burholt et al. (2020) were able to provide more definitive findings in relation to social isolation and loneliness in older age. Specifically, they found that telephone calls and texts/emails had a moderating effect on social isolation, but that neither telephone calls nor ICT use could fully moderate loneliness. That is, some face-to-face contact was required to fully moderate loneliness in older age. Therefore, ongoing efforts to keep people connected face-to-face are crucial for healthy ageing, noting that those efforts must be considered supportive by older people to yield positive outcomes (Holt-Lunstad & Uchino, 2015). Additionally, based on the findings in the Burholt et al, (2020) study, service provision and policy making focused on reducing social isolation should consider the benefits of increasing access to ICT for older people living in rural communities.

Preferences in paying for services

Paying for services was also a distinction between network types in this research. For older people who were less inclined or unable to ask for social support for assistance (*local self-contained* and *private restricted* support networks respectively) there were clear preferences to pay for services when they were needed. In contrast, older people in *locally integrated*, *family dependent* and *wider community focused* support networks were all happy to seek support from family and friends or accept it if it was offered. Some older people in *wider community focused* support networks expressed a preference to pay for household maintenance services to preserve social boundaries with friends, but older people in *locally integrated* support networks were found to have a wide range of supportive ties and robust access to social support for all sorts of household maintenance jobs. For example, one *locally integrated* married man had a much younger local friend who collected and delivered firewood regularly, while another had two sons, one locally based full-time and another locally based part-time, who assisted him with cleaning out the gutters as well as anything else that required going up a ladder. Patterns of preferences regarding paying for services were consistent with the Wenger (1994) features associated with each of these network types.

Australian research has found that planning (for population ageing) relies on adequate knowledge of the differences among diverse older populations to formulate appropriate policy responses (O'Brien, 2016). Network typing offers a useful way of examining the types of services that may be required in different rural communities, especially in those communities experiencing high levels of retirement migration.

Motor vehicle driving independence

In rural Australia, as in many rural communities around the world, there are challenges in providing adequate public transport. For older people who face the loss of a driver's licence, this becomes particularly pertinent. In smaller rural communities, the lack of public transport was found to be problematic, and older participants with limited access to a private car did not feel they would be able to maintain living in their communities for much longer. That is, they would need to either move to communities with public transport options or move to supported accommodation. In addition, older women were more likely than older men to be non-drivers. Barr & Russell (2007) found that Australian retirees who had migrated to coastal communities (so-called 'seachangers') were highly reliant on driving private vehicles, and those most likely to be non-drivers were female and older.

Non-drivers often experienced reduced contact with families, which had implications for morale and levels of loneliness. As shown in the previous section, contact by telephone and ICT was only able to moderate social isolation but not loneliness. Importantly, support network typing can provide service planners with greater visibility of both non-driver access to private cars or private taxis and of those who may be more heavily reliant on public transport. For example, access to transport by private cars for older participants in *family dependent, locally integrated* and *wider community focused* support networks was common. Families and friends provided transport to shops, medical appointments, and social activities and events, noting that access to transport by private car provided considerable convenience and flexibility in the timing of transport. Older people in more restricted networks who could afford to pay and those in *wider community focused* support networks (generally more financially secure) were also found to be the greatest users of private taxi services.

A number of proposals to improve transport services in the East Gippsland region were received through this study. Older people believed an increase in the availability of community buses may help to better meet the needs of older people. Specifically, community buses could: help older farmers get to the saleyards on a Thursday or into the pub on a Friday

evening; and help older people get to the local shops for both necessities and social activities. Helping older people stay connected with physical activities and exercise classes would also offer support efforts to increase healthy rural ageing. Earlier Australian research found several challenges existed for service providers around efforts to increase the community volunteer driving pool (Anderson et al., 2011). However, increasing the community volunteer driving pool is likely to have significant implications for increasing community transport options in rural communities. Service providers and policy makers should consider the benefits of understanding this research more fully.

Chapter Eight: Conclusion

Social relationships and their importance to people's health have long been understood (Berkman & Syme, 1979; Chappell et al., 1983; Davis & Bartlett, 2008; Wenger, 1991; Windsor et al, 2016; World Health Organization, 2019). That is, social isolation is recognised as a real health risk and social connectedness as a health benefit. As Wenger and Keating (2008:33) explain:

> *Throughout life, good relationships are associated with better health, wellbeing and ability to cope with major life events.*

Globally, rural communities are more likely to have older demographic profiles, and rural Australian communities have been ageing faster than urban populations for many years (Davis & Bartlett, 2008; Heidi-Ottosen, 2014; Hugo, 2014). Two key trends are considered responsible for this faster rate of population ageing; the outmigration of younger people to cities (for education and work), and the in-migration of older people looking for a lifestyle change (Berry, 2020; Warburton et al., 2013). The characteristics of rural living, such as patterns of migration, limited infrastructure and services, and the marginalisation of rural older people, make achieving healthy ageing an ongoing challenge (Davis & Bartlett, 2008). If healthy ageing policy goals are to be achieved for older people living in rural areas, a better understanding of the support that older people need to meet their social, psychological, and health needs in the rural environment, is essential.

Support network typing offers a useful tool for measuring social support in later life. Of particular importance is that globally, social support is not routinely measured in clinical care, service planning, or policy making for older people. This provides an opportunity in response for the call for more sophisticated policies to improve the healthy ageing of Australia's diverse older rural population.

Implications for policy and practice

Support network typing enables greater visibility of the social support patterns in older populations. Support network typing been used in other countries to support workforce and service planning for older people (Wenger & Tucker, 2002). The introduction of the Wenger *PANT* into routine Australian service planning would enable the Wenger *PANT* to be strengthened for the needs of the older Australian population. For example, the testing of new communication variables in this study provided more information about the connectivity of

older people (highlighting how gaps in ICT infrastructure in rural areas may contribute more heavily to social isolation and loneliness for some older people) but also the strength of the current Wenger *PANT* in network type assignment.

However, a modern refinement in the questions around attendance at religious services and community involvement may strengthen the tool for future use. For example, in this study, rather than just religious observance, spirituality was raised as being important at interviews (that is, the seventh question in the Wenger *PANT* was considered limiting). Similarly, the lack of opportunity to signal volunteerism as separate from social activity was also considered important (that is, the final question in the Wenger *PANT* was also considered limiting). There were also several comments made by participants in this doctoral research about the lack of opportunity to showcase the contributions made by older people, such as caring responsibilities for more elderly parents or grandchildren. Therefore, the adoption of support network typing in an Australian service planning and policy making setting would enable these findings to be explored further and, where necessary, refined for future social surveys. It may be that some of these findings will be used to enhance data collection rather than change the network typing process (as designed by Wenger). That is, information that would not necessarily feed into the network typing assignment process, but which may encourage the completion of postal surveys and provide other valuable supporting information.

For clinical use, it may be possible to reduce the Wenger *PANT* further to improve its clinical utility. This is likely to improve its uptake clinically, which may improve care for rural older people – especially where medical services and the availability of GPs are stretched. Specifically, support network typing may assist busy clinicians and service planners in better assessing social risk factors, likely service use, and possible shared care arrangements and partnerships with older people (because their preferences are more visible without having to seek information in detail) and members of their informal network (such as an adult daughter or neighbour who may have driven an older person to their medical appointment, etc.).

The strengths of this study included the novel sampling technique used, which helped to construct a genuine community sample (no bias regarding age or health status), noting that this did result in an oversampling of older men. Yet, this may also be considered a strength given that older men are important to reach for service planning purposes. A genuine community sample provides evidence of social support in later life rather than simply

patterns of caregiving provided by informal network members, providing more information about what *future* patterns of care and contributions (for and by older people) might look like and why.

Also, understanding the typology of naturally occurring networks provides a benchmark and framework to interpret future research findings and health service planning data. For example, service planning for health and aged care providers is likely to find greater numbers of people in the more restricted network types as these people are generally heavier users of formal services, but this should not be interpreted as a representation of a community overall. Wenger (1984) found most older people ageing well and coping well with their own problems in later life. Understanding the natural capability and resilience within a community is important for health policy setting (Graycar, 2018). That is, policies need to support people when ageing becomes a problem, as opposed to developing policies that assume ageing is a problem. Supporting healthy ageing requires knowledge of what healthy ageing looks like in older populations. Of particular importance to the author is that social engagement is recognised as being varied, and that network typing is useful to help guide organisations in providing a range of social activities in recognition of this. This might better support older people in 'less sociable' network types to maintain the kinds of relationships and activities that are the most important to them. Suggestions from participants in this research included increasing services such as community buses to connect people within their home environments as well as taking older people to specific places like the saleyards or the shops. This may become increasingly important to fulfil the current policy focus of healthy ageing in rural Australia.

Study limitations

There were a number of limitations identified in this study. Firstly, older people in this study ranged in age from 65 – 96 years, but interviews with people aged 85 and older were difficult to obtain for some of the smaller support network types. Therefore, some of the qualitative data analysed and presented in this thesis may have been skewed towards people aged 65 – 80, and findings should be applied with caution for people aged 85 and older. Similarly, the sample bias identified an oversampling of older men, so findings related to men aged 85 and older should be applied with caution for people aged 65 – 80 years.

Secondly, the study cohort in this doctoral research was determined to be highly educated. While this was found to be consistent with the educational profile found across this region of

Australia, it may not present an accurate reflection of all Australian communities. Therefore, the research findings in this study as they pertain to the East Gippsland region of Victoria need to be treated with some caution regarding other older rural Australian populations.

Thirdly, this research, due to the resources available for a PhD study, involved a cross-sectional sampling approach with one in-depth interview at one point in time per person. Therefore, some facets of social relationships were unable to be explored or validated. However, it should be noted that there was an 18-month time delay in this research between older people completing and returning the study questionnaires and the interviews being conducted. This enabled the PhD researcher to identify that some older people appeared to be in network transition during this study. Yet, it must be reinforced that Wenger network transitions are rare and generally predictable, providing greater visibility of changes in personal circumstances and the social support environment for individuals.

Finally, it is important to acknowledge that it has been eight years since the first quantitative data was collected. However, at the core of this research is the evidence of the stability of the Wenger network types within populations and for most individuals. Therefore, the Wenger network types identified in the East Gippsland population are unlikely to have changed over this short period of time and the findings in this study are probably still relevant today.

Contributions from this study and future research

This research has empirically tested the strength of the existing Wenger *PANT* for use in a rural Australian population. Research findings have shown that the Australian typology generated by the Wenger *PANT* provides useful information about older people's access to social support as well as the volume of people likely to lean more heavily on formal services. This research adapted the Wenger *PANT* for use in an Australian population. New communication variables were tested, which may provide some additional useful information in the development of the Wenger *PANT* in an older rural Australian population for both researchers and service planners. Questions around attendance at religious services and community involvement, and issues of spirituality rather than religious observance were raised in interviews. Older rural Australians wanted to be able to explicitly separate volunteerism from participation in social activities.

This research has highlighted some of the specific features present in a rural Australian population, such as the high levels of retirement migration in the area, are skewed towards

the retirement in-migration of older people from outside the area. However, this research has also highlighted that there is significant migration within the East Gippsland region, as older people leave smaller communities and move off the land to live closer to their children and grandchildren who live in the larger towns. These in-region migration patterns often increase support for both older people and their rural families.

The strength of this research was in understanding how social support is developed in early retirement and among younger-old rural Australians and providing a community sample reflective of the capabilities and resilience of the older population to help interpret rural service needs. This may contribute to preventing the perpetuation of the stigma that older people are an economic burden and highlight that they are significant contributors to the health and wellbeing of rural older people and rural communities. While people near the end of their lives may require some additional support, this should be considered in relation to a lifetime of contributions to families, workplaces, and communities. From this research, it was clear that many older rural Australians dedicate significant time and money to improving the land and the Australian environment for the benefit of future generations.

Future research opportunities to build on this research include the following:

- Longitudinal support network research to identify network transitions in an Australian population. This would assist in confirming the core features of the Australian *private restricted* support network type for older Australian men, and identify whether the differences found in this study sample were due to network transitions or not;
- The construction of an Australian Wenger *support network typology* in other rural Australian communities using the same novel Australia Post randomised sampling methods to develop community profiles for comparison with this doctoral research;
- Qualitative research with older people's support network ties, such as adult children, friends, and neighbours to better understand the reliability of social support in different network types. Particularly, under what circumstances may relationships change or fall apart (e.g., in the case of mental illness), with particular emphasis on better understanding the role of friends and neighbours in providing social support;
- Supporting the uptake of the Wenger *PANT* clinically to support social workers and other rural clinicians to support network typing for improving the care of older people and to further develop and validate the tool in Australian settings. This could involve

the development of guidelines for practitioners in a similar manner to the guidelines developed by Wenger for social workers (Wenger, 1994); and

- Evaluating the Wenger *PANT* in Australian health and aged services to assess its utility in improving workforce and service planning for Australian service providers.

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Appendices

Appendix 1: Adapting the Wenger *PANT* for an Australian setting

Wenger *PANT*		**Australian Adaptation**	
Question	Response Options	Question	Response Options
How far away (*in terms of distance*) does your nearest child or other relative live? *NOTE: Includes related members of household; excludes spouse*	0) No relatives 1) Within 1 mile 2) 1-5 miles 3) 6-15 miles 4) 16-50 miles 5) 50+ miles	Thinking about your family, but not including your spouse, how far away, in distance, does your nearest child or other relative live?	0) No relatives 1) Same house or less than 2 km 2) 3-10km 3) 11-20km 4) 21-100km 5) Greater than 100km
Do you have any children? IF YES: Where does your nearest child live?	0) No children 1) Within 1 mile 2) 1-5 miles 3) 6-15 miles 4) 16-50 miles 5) 50+ miles	If you have any children, where does your nearest child live?	0) No children 1) Same house or less than 2 km 2) 3-10km 3) 11-20km 4) 21-100km 5) Greater than 100km
Do you have any living sisters or brothers? IF YES: Where does your nearest sister or brother live?	0) No sisters or brothers 1) Within 1 mile 2) 1-5 miles 3) 6-15 miles 4) 16-50 miles 5) 50+ miles	If you have any living sisters or brothers, where does your nearest sister or brother live?	0) No sisters or brothers 1) Same house or less than 2 km 2) 3-10km 3) 11-20km 4) 21-100km 5) Greater than 100km
How often do you see any of your children or other relative to speak to?	0) Never / no relative 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often	How often do you see any of your children or other relatives?	0) Never / no relative 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often than monthly
Do you have friends in this community? IF YES: How often do you have a chat or do something with one of your own friends?	0) Never / no friends 1) Daily 2) 2-3 times / week 3) At least weekly	Thinking about the friends you may have in this community / neighbourhood, how often do you catch up in person to have a chat or	0) Never / no friends 1) Daily 2) 2-3 times / week 3) At least weekly

	4) At least monthly 5) Less often	do something with one of your friends?	4) At least monthly 5) Less often than monthly
How often do you see any of your neighbours to have a chat with or do something with?	0) No contact with neighbours 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often	Thinking about your neighbours, how often do you have a chat with your neighbours or do something with them?	0) No contact with neighbours 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often than monthly
Do you attend any religious meetings?	1) Yes, regularly 2) Yes, occasionally 0) No	Thinking about getting out and about, do you attend any religious services or other religious events?	1) Yes, regularly 2) Yes, occasionally 0) No
Do you attend meetings of any community or social groups, such as old people's clubs, lectures or anything like that?	1) Yes, regularly 2) Yes, occasionally 0) No	Do you attend any community / neighbourhood meetings or social clubs such as U3A, Bowls, Country Women's Association or any other activity?	1) Yes, regularly 2) Yes, occasionally 0) No

Appendix 2: New variables being tested in UK and Australia

New Variables in UK		**Australian Adaptation**	
Question	Response Options	Question	Response Options
How often do you speak to your children or other relatives over the phone?	1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often	How often do you **speak** to any of your children or other relatives by telephone, either a landline or mobile phone?	0) Never / no relative 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often than monthly
How often do you speak to your children or other relatives by text / email?	1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often	How often do you **communicate** with any of your children or other relatives by text, email or Skype or any other form of information and communication technology?	0) Never / no relative 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often than monthly
How often do you see any of your children or other relatives to speak to using Skype or other similar face-to-face technology?	0) Never 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often		
How often do you see any of your friends to speak to using Skype or other similar face-to-face technology?	0) Never 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often	How often do you **speak** to any of your friends by telephone, either a landline or mobile phone?	0) Never / no friends 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often than monthly
		How often do you **communicate** with any of your friends by text, email or Skype or any other form of information and communication technology?	0) Never / no friends 1) Daily 2) 2-3 times / week 3) At least weekly 4) At least monthly 5) Less often than monthly

Appendix 3: Research Study Questionnaire

School of Health Sciences
GPO Box 2100
Adelaide SA 5001
Tel: 0400 156 379
Email: beye0007@flinders.edu.au
www.flinders.edu.au
CRICOS Provider No. 00114A

Hello, my name is Suzy Byers. I am a PhD research student with Flinders University in South Australia. I am writing to invite you to take part in a new research study.

The purpose of this new study is to explore the types of support older rural people receive from family, friends, neighbours and other social acquaintances. This research will be supervised by Dr Sam Davis, Senior Lecturer at the School of Health Sciences; an experienced researcher with over 25 years' experience. The research findings will be written up into a thesis for university assessment and may be developed into papers for peer reviewed academic journals.

Participation in the research study

Older people's views are often not heard, so if you are 65 years of age or older and living independently, then I would really like to hear from you.

The enclosed questionnaire provides you with the opportunity to have your say; it will take approximately 15 minutes to complete. Your participation is completely voluntary and you may decline to answer any question, or decide not to continue at any point, before returning your questionnaire to me.

Please complete it and send it back to me using the reply paid envelope – no stamp is required. If you do not have this envelope then you can put it in any envelope with the following address:

Flinders University
Palliative and Supportive Services – S Davis
Reply Paid 2100
Adelaide, South Australia, 5001

You will NOT need a stamp.

At the end of the questionnaire you are offered the opportunity to participate in a follow-up interview with me – the choice is yours! All you have to do at this stage is provide your contact details and return the completed questionnaire. The interview will be held at a convenience time and location near you so that I can hear more about your experience of living independently in a rural or regional community.

Protecting your privacy

I would like to assure you that all information you provide to me will be held in the strictest confidence and a reply paid envelope has been provided so the completed questionnaires, once returned, will only be accessible to me and my supervisor, Dr Sam Davis at Flinders University.

The questionnaires will be kept in a secure location on university property for a period of five years, after which time they will be destroyed.

If you have any questions or concerns about the questionnaire or the research study, you can contact either me or my supervisor, Dr Sam Davis.

Suzy Byers, School of Health Sciences, GPO Box 2100, Adelaide, SA 5001

Email: beye0007@flinders.edu.au or Phone number: 0400 156 379

Dr Sam Davis, School of Health Sciences, GPO Box 2100, Adelaide, SA 5001

Email: sam.davis@flinders.edu.au or Phone numbers: 0437 811 618

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (#6683). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on (08) 8201 3116, by fax on (08) 8201 2035 or by email: human.researchethics@flinders.edu.au

So, let's begin. For the following questions, **please tick only ONE box that best describes your response to the question**.

1. Thinking about your family but not including your spouse, how far away, in distance, does your nearest child or other relative live?

No relatives	❒
Same house or less than 2 km	❒
3 km – 10 km	❒
11 km – 20 km	❒
21 km – 100 km	❒
Greater than 100 km	❒

2. If you have any children, where does your nearest child live?

No children	❒
Same house or less than 2 km	❒
3 km – 10 km	❒
11 km – 20 km	❒
21 km – 100 km	❒
Greater than 100 km	❒

3. If you have any living sisters or brothers, where does your nearest sister or brother live?

No sisters or brothers	❒
Same house or less than 2 km	❒
3 km – 10 km	❒
11 km – 20 km	❒
21 km – 100 km	❒
Greater than 100 km	❒

4. How often do you see any of your children or other relatives?

Never / no relative	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

5. How often do you **speak** to any of your children or other relatives by telephone, either a landline or a mobile phone?

Never / no relative	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

6. How often do you **communicate** with any of your children or other relatives by text, email or Skype or any other form of information and communication technology?

Never / no relative	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

7. Thinking about the friends you may have in this community / neighbourhood, how often do you catch up in person to have a chat or to do something with one of your friends?

Never / no friends	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

8. How often do you **speak** to your friends by telephone, either a landline or a mobile phone?

Never / no friends	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

9. How often do you **communicate** with your friends by text, email or Skype or any other form of information and communication technology?

Never / no friends	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

10. Thinking about your neighbours, how often do you have a chat with your neighbours or do something with them?

No contact with neighbours	❒
Daily	❒
2 – 3 times a week	❒
At least weekly	❒
At least monthly	❒
Less often than monthly	❒

11. Thinking about getting out and about, do you attend any religious services or other religious events?

Yes, regularly	❒
Yes, occasionally	❒
No	❒

12. Do you attend any community / neighbourhood meetings or social clubs such as U3A, Bowls, Country Women's Association or any other activity?

Yes, regularly	❒
Yes, occasionally	❒
No	❒

You are nearly finished. To assist me in developing an overall profile of the study sample for my university report would you please consider completing the following. This information will not be used in any way that can identify you as an individual.

13. Age: _____ years

14. Gender: ❒ Female ❒ Male

15. Marital status: ❒ Married ❒ Widowed ❒ Not married ❒ Never married

16. Living arrangements: ❒ Live alone ❒ Live with someone else/others

17. Name of the closest town to where you live? _____

18. How long have you lived in this area? _____ years

19. What levels of formal education have you achieved? (*please tick more than one*)

Completed primary school	❒
Completed secondary school to Year 10	❒
Completed secondary school to Year 12	❒
Completed technical or further education (TAFE) certificate	❒
Completed university / tertiary institution qualification	❒
No formal schooling	❒

20. Health status: ❒ Generally good ❒ Bit up and down ❒ Generally poor

21. Is English a language you speak at home?

Yes, regularly	❒
Yes, occasionally	❒
No	❒

22. Do you identify as an Aboriginal or Torres Strait Islander person?

Yes	❒
No	❒

You are now coming to the end of the questionnaire. I have made some room over the next two pages for any personal comments you may like to make about living in a rural community and your interactions with family, friends, neighbours and other social acquaintances. Remember older people's views are often not heard so this is your chance! I would also value talking to you in person about your experience of growing older in a rural community so please write your contact details in the box below if you would like to meet with me. I will contact you to arrange an interview at a time / place convenient to where you live. I will be organising interviews in your area in late July, August and September.

Participation in follow up interviews

Please provide you name and contact details here.

Name: _____

Address: _____

Phone number: _____

Please remember your participation in this research study is voluntary and that you are able to withdraw or change your mind about participating at any time.

Please make any comments you may have here (there is more room over the page):

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

THANK YOU FOR YOUR PARTICIPATION

Please use the **Reply Paid envelope** provided to return the completed questionnaire directly to me at Flinders University (it does NOT require a stamp).

Appendix 4: Postal Localities in East Gippsland Region

Locality Name	Total Private	Private Street	Private RSD	Private POB	Private Counter	Eligible	**Included in study**
FERNBANK - 3864	99	0	51	0	48	Yes	**Yes**
GLENALADALE - 3864	21	0	21	0	0	Yes	**Yes**
LINDENOW - 3865	344	0	4	101	239	Yes	No
BAIRNSDALE - 3875	4212	3301	93	818	0	Yes	**Yes**
BANKSIA PENINSULA - 3875	4	0	4	0	0	Yes	No
BENGWORDEN - 3875	47	0	47	0	0	Yes	No
BROADLANDS - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BULLUMWAAL - 3875	*11*	*0*	*11*	*0*	*0*	*No*	*NA*
CALULU - 3875	71	0	71	0	0	Yes	No
CLIFTON CREEK - 3875	*76*	*0*	*76*	*0*	*0*	*No*	*NA*
DEPTFORD - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
EAST BAIRNSDALE - 3875	427	427	0	0	0	Yes	**Yes**
EASTWOOD - 3875	630	619	11	0	0	Yes	**Yes**
ELLASWOOD - 3875	63	10	53	0	0	Yes	No
FAIRY DELL - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
FLAGGY CREEK - 3875	34	0	34	0	0	Yes	No
FORGE CREEK - 3875	145	3	142	0	0	Yes	No
GOON NURE - 3875	56	0	56	0	0	Yes	No
GRANITE ROCK - 3875	82	0	82	0	0	Yes	No
HILLSIDE - 3875	68	0	68	0	0	Yes	No
IGUANA CREEK - 3875	31	0	30	0	1	Yes	No
LINDENOW SOUTH - 3875	175	0	120	0	55	Yes	No
LUCKNOW - 3875	410	293	117	0	0	Yes	**Yes**
MARTHAVALE - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
MELWOOD - 3875	*12*	*0*	*12*	*0*	*0*	*No*	*NA*
MERRIJIG - 3875	*1*	*0*	*1*	*0*	*0*	*No*	*NA*
MOUNT TAYLOR - 3875	84	0	84	0	0	Yes	No
NEWLANDS ARM - 3875	269	269	0	0	0	Yes	No
RYANS - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
SARSFIELD - 3875	195	0	195	0	0	Yes	No

TABBERABBERA - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
WALPA - 3875	59	0	59	0	0	Yes	No
WATERHOLES - 3875	*2*	*0*	*2*	*0*	*0*	*No*	*NA*
WENTWORTH - 3875	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
WOODGLEN - 3875	21	0	21	0	0	Yes	No
WUK WUK - 3875	29	0	29	0	0	Yes	No
WY YUNG - 3875	527	369	158	0	0	Yes	**Yes**
EAGLE POINT - 3878	328	328	0	0	0	Yes	**Yes**
BOOLE POOLE - 3880	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
OCEAN GRANGE - 3880	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
PAYNESVILLE - 3880	1686	1560	0	126	0	Yes	**Yes**
RAYMOND ISLAND - 3880	299	299	0	0	0	Yes	**Yes**
NICHOLSON - 3882	896	0	2	407	487	Yes	No
BRUMBY - 3885	*3*	*0*	*3*	*0*	*0*	*No*	*NA*
BRUTHEN - 3885	272	189	13	67	3	Yes	No
BUCHAN - 3885	77	0	10	55	12	Yes	No
BUCHAN SOUTH - 3885	28	0	28	0	0	Yes	No
BUTCHERS RIDGE - 3885	*7*	*0*	*7*	*0*	*0*	*No*	*NA*
GELANTIPY - 3885	*13*	*0*	*13*	*0*	*0*	*No*	*NA*
MOSSIFACE - 3885	47	0	47	0	0	Yes	No
MURRINDAL - 3885	*6*	*0*	*6*	*0*	*0*	*No*	*NA*
SUGGAN BUGGAN - 3885	*3*	*0*	*3*	*0*	*0*	*No*	*NA*
TAMBO UPPER - 3885	119	0	118	0	1	Yes	No
TIMBARRA - 3885	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
W TREE - 3885	*15*	*0*	*15*	*0*	*0*	*No*	*NA*
WISELEIGH - 3885	8	0	3	4	1	Yes	No
WULGULMERANG - 3885	*6*	*0*	*6*	*0*	*0*	*No*	*NA*
WULGULMERANG EAST - 3885	*12*	*0*	*12*	*0*	*0*	*No*	*NA*
WULGULMERANG WEST - 3885	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
YALMY - 3885	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
NEWMERELLA - 3886	146	0	0	106	40	Yes	No
LAKE TYERS - 3887	*5*	*0*	*0*	*0*	*5*	*No*	*NA*
NOWA NOWA - 3887	*184*	*0*	*0*	*33*	*151*	*No*	*NA*
WAIREWA - 3887	*82*	*0*	*3*	*0*	*79*	*No*	*NA*

BENDOC - 3888	*71*	*0*	*52*	*19*	*0*	*No*	*NA*
BETE BOLONG - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BETE BOLONG NORTH - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BONANG - 3888	*17*	*0*	*17*	*0*	*0*	*No*	*NA*
BRODRIBB RIVER - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
CAPE CONRAN - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
CORRINGLE - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
DEDDICK VALLEY - 3888	*7*	*0*	*7*	*0*	*0*	*No*	*NA*
DELEGATE RIVER - 3888	*6*	*0*	*0*	*0*	*6*	*No*	*NA*
GOONGERAH - 3888	*17*	*0*	*17*	*0*	*0*	*No*	*NA*
JARRAHMOND - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
MARLO - 3888	161	0	0	161	0	Yes	No
NURRAN - 3888	*1*	*0*	*1*	*0*	*0*	*No*	*NA*
ORBOST - 3888	1433	970	0	463	0	Yes	**Yes**
SIMPSONS CREEK - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
TOSTAREE - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
TUBBUT - 3888	*14*	*0*	*14*	*0*	*0*	*No*	*NA*
WAYGARA - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
WOMBAT CREEK - 3888	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BELLBIRD CREEK - 3889	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BEMM RIVER - 3889	*108*	*0*	*108*	*0*	*0*	*No*	*NA*
CABBAGE TREE CREEK - 3889	*15*	*0*	*15*	*0*	*0*	*No*	*NA*
CLUB TERRACE - 3889	*44*	*0*	*30*	*14*	*0*	*No*	*NA*
COMBIENBAR - 3889	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
ERRINUNDRA - 3889	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
MANORINA - 3889	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BULDAH - 3890	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
CANN RIVER - 3890	*50*	*0*	*2*	*48*	*0*	*No*	*NA*
CHANDLERS CREEK - 3890	*5*	*0*	*5*	*0*	*0*	*No*	*NA*
NOORINBEE - 3890	*17*	*0*	*17*	*0*	*0*	*No*	*NA*
NOORINBEE NORTH - 3890	*5*	*0*	*5*	*0*	*0*	*No*	*NA*
TAMBOON - 3890	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
TONGHI CREEK - 3890	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
GENOA - 3891	*30*	*0*	*0*	*30*	*0*	*No*	*NA*

GIPSY POINT - 3891	*42*	*0*	*42*	*0*	*0*	*No*	*NA*
MARAMINGO CREEK - 3891	*1*	*0*	*0*	*0*	*1*	*No*	*NA*
WALLAGARAUGH - 3891	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
WANGARABELL - 3891	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
WINGAN RIVER - 3891	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
WROXHAM - 3891	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
MALLACOOTA - 3892	*315*	*0*	*0*	*315*	*0*	*No*	*NA*
DOUBLE BRIDGES - 3893	*3*	*0*	*0*	*0*	*3*	*No*	*NA*
STIRLING - 3893	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
TAMBO CROSSING - 3893	23	0	0	0	23	Yes	No
DOCTORS FLAT - 3895	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
ENSAY - 3895	28	0	11	17	0	Yes	**Yes**
ENSAY NORTH - 3895	11	0	11	0	0	Yes	**Yes**
REEDY FLAT - 3895	21	0	21	0	0	Yes	**Yes**
BINDI - 3896	*63*	*0*	*6*	*0*	*57*	*No*	*NA*
BROOKVILLE - 3896	*18*	*0*	*0*	*0*	*18*	*No*	*NA*
NUNNIONG - 3896	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
SWIFTS CREEK - 3896	384	0	0	102	282	Yes	**Yes**
TONGIO - 3896	41	0	8	0	33	Yes	**Yes**
ANGLERS REST - 3898	*8*	*0*	*8*	*0*	*0*	*No*	*NA*
BINGO MUNJIE - 3898	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BUNDARA - 3898	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
CASSILIS - 3898	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
COBUNGRA - 3898	*19*	*0*	*19*	*0*	*0*	*No*	*NA*
DINNER PLAIN - 3898	*27*	*0*	*0*	*27*	*0*	*No*	*NA*
GLEN VALLEY - 3898	*5*	*0*	*5*	*0*	*0*	*No*	*NA*
GLEN WILLS - 3898	*2*	*0*	*2*	*0*	*0*	*No*	*NA*
HINNOMUNJIE - 3898	*7*	*0*	*7*	*0*	*0*	*No*	*NA*
OMEO - 3898	130	0	0	130	0	Yes	**Yes**
OMEO VALLEY - 3898	*2*	*0*	*2*	*0*	*0*	*No*	*NA*
SHANNONVALE - 3898	*2*	*0*	*2*	*0*	*0*	*No*	*NA*
BENAMBRA - 3900	*67*	*0*	*4*	*62*	*1*	*No*	*NA*
COBBERAS - 3900	*0*	*0*	*0*	*0*	*0*	*No*	*NA*
BUMBERRAH - 3902	52	0	21	0	31	Yes	No

JOHNSONVILLE - 3902	106	0	6	0	100	Yes	No
SWAN REACH - 3903	339	0	28	105	206	Yes	**Yes**
METUNG - 3904	313	0	0	313	0	Yes	No
KALIMNA - 3909	439	0	439	0	0	Yes	**Yes**
KALIMNA WEST - 3909	60	0	60	0	0	Yes	**Yes**
LAKE BUNGA - 3909	*87*	*87*	*0*	*0*	*0*	*No*	*NA*
LAKE TYERS BEACH - 3909	*491*	*491*	*0*	*0*	*0*	*No*	*NA*
LAKES ENTRANCE - 3909	*2470*	*1699*	*48*	*585*	*138*	*No*	*NA*
NUNGURNER - 3909	101	0	101	0	0	Yes	**Yes**
NYERIMILANG - 3909	12	0	12	0	0	Yes	No
TOORLOO ARM - 3909	*119*	*70*	*10*	*0*	*39*	*No*	*NA*

Appendix 5: Research Study Letter Bundles

Appendix 6: Australia Post Mail Trays and Labels

PAYNESVILLE
ALL_3880 Surface

VIC
Victoria

Flinders University

T1/34 A131

9112 65003880 123459491879

Large Tray	Unaddressed Mail	Booking Nr	Delivery Week Commencing
UMCS 1v1 VISA 4v1		U0427273	25/05/2015

BAIRNSDALE DA
ALL_3875 Surface

VIC
Victoria

Flinders University

T3/34 A300

9112 65013875 123459491881

Large Tray	Unaddressed Mail	Booking Nr	Delivery Week Commencing
UMCS 1v1 VISA 4v1		U0427273	25/05/2015

ORBOST
ALL_3888 Surface

VIC
Victoria

Flinders University

T27/34 A233

9112 65003888 123459491905

Large Tray	Unaddressed Mail	Booking Nr	Delivery Week Commencing
UMCS 1v1 VISA 4v1		U0427273	25/05/2015

SWIFTS CREEK
ALL_3896 Surface

VIC
Victoria

Flinders University

T29/34 A229

9112 65003896 123459491907

Large Tray	Unaddressed Mail	Booking Nr	Delivery Week Commencing
UMCS 1v1 VISA 4v1		U0427273	25/05/2015

Appendix 7: Research Study Media Release

Marketing and Communications Office
Function Centre
GPO Box 2100
Adelaide SA 5001
Australia

Tel: +61 8 8201 5768
Fax: +61 8 8201 3027
Mobile: +61 414 805 153
paula.brinkworth@flinders.edu.au

www.flinders.edu.au

CRICOS Provider No. 00114A

MEDIA RELEASE

STUDY TO EXPLORE SOCIAL SUPPORT NETWORKS OF OLDER EAST GIPPSLAND RESIDENTS

A new study which will explore the social support networks of older people living in the East Gippsland region of Victoria aims to help provide better rural community services for Australia's ageing population.

Flinders University PhD student Suzy Byers, says her study of people aged 65 years and over and who live independently in the region will hopefully assist future health and community services planning in rural communities.

According to Australian Bureau of Statistics figures, nearly 25 per cent of East Gippsland's population of 42,000 are aged over 65, compared with just 14.2 per cent in all of Victoria.

"East Gippsland is a beautiful part of Victoria which attracts many retirees and has a high concentration of people aged 65 plus. This makes it the ideal place to hear from older people about their experiences of living in a vibrant community," Ms Byers said.

"Health care planning in rural areas is challenging and older people's views are often not sought to inform health care planning decisions."

"I hope the study will give a better picture of how older people seek assistance from family, friends, neighbours and other social acquaintances to help service planners better recognise what formal services older people want and really need."

Ms Byers, who lives in Victoria but is undertaking her postgraduate Health Sciences studies externally at Adelaide's Flinders University, said that by gaining a greater understanding of the different types of social support networks used by older Australians, formal health and community services could better target those in greatest need.

She said similar research conducted in Wales, UK was able to demonstrate that understanding a person's "social world" helped health care professionals to better identify of the real needs of older people in their care.

"We talk a lot about social inclusion, social participation and worry a lot about social isolation, but we need to be careful that we don't put everyone into one category and offer only one solution," she said.

"Maintaining good health and wellbeing is about looking after both physical and mental health.

inspiring achievement

"It's well known that once a person is no longer able to drive there is a greater risk of social isolation. However, that does not mean that providing a bus once a week into a community centre is going to work for everyone.

"As people get older, they don't change essentially. Who you are now is pretty much who you become. Certainly in older age some people experience disabilities that limit their day-to-day life, but whenever I have talked with older people, their preferences for how they want to live their life don't seem to have changed very much."

As part of the study, a short questionnaire is currently being distributed to households throughout the East Gippsland region.

Further information:

Name: Suzy Byers, Flinders University PhD student
Tel: 0400 156 379

Name: Paula Brinkworth, Journalist, Flinders University
Tel: 0414 805 153

7 May 2015

Appendix 8: Research Study Radio Interview

THU 28 MAY 2015

Flinders research in Gippsland report 20 May

Flinders UNIVERSITY

Lazzaro says a new study by Flinders University will explore the social support networks ...

ABC Gippsland, Sale, Breakfast, Kellie Lazzaro — 20 May 2015 7:11 AM

Duration: 7 mins 41 secs • ASR AUD 950 • VIC • Australia • Radio & TV • ID: V00061782208

Lazzaro says a new study by Flinders University will explore the social support networks for older people living in East Gippsland. She says nearly 25 per cent a quarter of East Gippsland's population is over the age of 65. She mentions Susie Byers, PhD student, Flinders University, hopes her study will provide a clearer picture of what sort of community services are need \ed in rural areas for aging population. Byers says people with lower levels of social support are often doing that before health comes at older age. She says she is circulating a questionnaire shortly to East Gippsland and she is also planning to do some follow-up interviews with people who wants to talk to her personally. She says she have prepared 6,300 questionnaires. She says there is only a few and simple questions that talks a little bit their relationship with kin.

Audience

N/A ALL, N/A MALE 16+, N/A FEMALE 16+

Interviewees

Susie Byers, PhD student, Flinders University

Appendix 9: Research Study TV News Story

https://www.youtube.com/watch?v=C0bEKE8oyxI

Appendix 10: Maximising Data Accuracy in Questionnaire Data

Questionnaire Variable	Number of differences identified	Number of errors confirmed & corrected	Estimated error rate (% per 500 cases)
Network question 1	3	1	0.2
Network question 2	5	3	0.6
Network question 3	2	1	0.2
Network question 4	6	5	1.0
Network question 4a	6	4	0.8
Network question 4b	8	8	1.6
Network question 5	3	2	0.4
Network question 5a	4	4	0.8
Network question 5b	13	9	1.8
Network question 6	3	3	0.6
Network question 7	2	1	0.2
Network question 8	4	1	0.2
Age	10	6	1.2
Gender	1	1	0.2
Marital Status	10	3	0.6
Living arrangements	4	2	0.4
Closest town to home	13	8	1.6
Length of time lived in area	7	2	0.4
Level of education attained	14	6	1.2
Subjective health status	7	2	0.4
English speaking at home	2	1	0.2
Identify as Aboriginal or Torres Strait Islander	3	0	0.0
Totals	**130**	**73**	**3.5**

Appendix 11: Recoding Geographic Data to Ordinal Data

Name of locality	SPSS variable label for locality	Recode into ten study localities (String)	Recode into ten study localities (Numeric)	Recode into three categories
Bairnsdale	Bdale	Bdale		
▪ Eastwood	Eastwood	Bdale	1	Large
▪ Lucknow	Lucknow	Bdale		
▪ Wy Yung	WyYung	Bdale		
Paynesville	Pville	Pville	2	Medium
▪ Raymond Island	Raymond	Pville		
Orbost	Orbost	Orbost	3	Medium
▪ Marlo	Marlo	Orbost		
Eagle Point	Eagle	Eagle		
▪ Forge Creek	Forge	Eagle	4	Small
▪ Goon Nure	Goonnure	Eagle		
Swan Reach	Swan	Swan		
▪ Nicholson	Nico	Swan	5	Small
▪ Nungurner	Nung	Swan		
▪ Metung	Metung	Swan		
Kalimna	Kalim	Kalim		
▪ Kalimna West	KalimW	Kalim	6	Small
▪ Lakes Entrance	Lakes	Kalim		
▪ Lakes Tyers Beach	LakeTyer	Kalim		
Fernbank	Fern	Fern		
▪ Glenaladale	Glen	Fern		
▪ Ellaswood	Ellas	Fern		
▪ Lindenow	Linden	Fern	7	Small
▪ Dargo	Dargo	Fern		
▪ Stockdale	Stock	Fern		
▪ Stratford	Strat	Fern		
▪ Sale	99	99		
Ensay	Ensay	Ensay		
▪ Tambo Crossing	Tambo	Ensay	8	Small
▪ Reedy Flat	Reedy	Ensay		
▪ Buchan	Buchan	Ensay		
Swifts Creek	Swifts	Swifts		
▪ Cassilis	Cassilis	Swifts		
▪ Brookville	Brook	Swifts	9	Small
▪ Tongio West	Tongio	Swifts		
▪ Bindi	Bindi	Swifts		
Omeo	Omeo	Omeo	10	Small
Riddells Creek	99	99	99	99

Appendix 12: Recoding Demographic Variables for Chi-Square Tests

SPSS variable name	Original categories	Recoded SPSS variable name	Recoded categories
age	Exact numbers (scale data)	recoage	1 = '65 – 69 years' 2 = '70 – 74 years' 3 = '75 – 79 years' 4 = '80 – 84 years' 5 = '85 years and older'
		recoage2	1 = '65 – 74 years' 2 = '75 years and older'
		recoage3	1 = '64 – 74 years' 2 = '75 – 84 years' 3 = '85 years and older'
marital	1 = 'Married' 2 = 'Widowed' 3 = 'Not married' 4 = 'Never married'	remarital	1 = 'Married' 2 = 'Widowed' 3 = 'Not married or never married'
		remarital2	1 = 'Married' 2 = 'Not married, widowed or never married'
health	1 = 'generally good' 2 = 'bit up and down' 3 = 'generally poor'	rehealth	1 = 'Generally good' 2 = 'Bit up and down or poor'
educ	0 = 'No formal schooling' 1 = 'Completed primary school' 2 = 'Completed school to Year 10' 3 = 'Completed school to Year 12' 4 = 'Completed (TAFE)' 5 = 'Completed university/tertiary'	reeduc	1 = 'Completed Year 10' 2 = 'Completed TAFE' 3 = 'Completed tertiary education'
area	Exact numbers (scale data)	codearea3	1 = 'Less than 25 years' 2 = '25 years or more'
sizetown	1 = 'Large' 2 = 'Medium' 3 = 'Small'	sizetown2	1 = 'Large or medium' 2 = 'Small only'
		sizetown3	1 = 'Bairnsdale' 2 = 'Medium and small towns'

Appendix 13: Recoding Network Ordinal Data for Chi-Square Tests

SPSS variable name	Original categories	Recoded SPSS variable name	Recoded categories
nq1	0 = 'No relative' 1 = 'Same house or within 2km' 2 = '3 – 10km' 3 = '11 – 20 km' 4 = '21 – 100 km' 5 = 'Greater than 100km'	reconq1	1 = 'None' 2 = 'Within 100km' 3 = 'Greater than 100km'
nq2	0 = 'No children' 1 = 'Same house or within 2km' 2 = '3 – 10km' 3 = '11 – 20 km' 4 = '21 – 100 km' 5 = 'Greater than 100km'	reconq2	1 = 'None' 2 = 'Within 100km' 3 = 'Greater than 100km'
nq3	0 = 'No living sisters or brothers' 1 = 'Same house or within 2km' 2 = '3 – 10km' 3 = '11 – 20 km' 4 = '21 – 100 km' 5 = 'Greater than 100km'	reconq3	1 = 'None' 2 = 'Within 100km' 3 = 'Greater than 100km'
nq4	0 = 'Never / no relative' 1 = 'Daily' 2 = '2-3 times a week' 3 = "At least weekly' 4 = "At least monthly' 5 = 'Less often than monthly'	reconq4	1 = 'Daily' 2 = 'Less often'
		reco2nq4	1 = 'Weekly or more often' 2 = 'Less often'
		reco3nq4	1 = 'Monthly or more often' 2 = 'Less often'
		reco4nq4	1 = 'Few times a week or daily' 2 = 'Weekly or less often'
nq5	0 = 'Never / no friend' 1 = 'Daily' 2 = '2-3 times a week' 3 = "At least weekly' 4 = "At least monthly' 5 = 'Less often than monthly'	reconq5	1 = 'Few times a week or daily' 2 = 'Weekly or less often'
		reco2nq5	1 = 'Weekly or more often' 2 = 'Less often or never'

nq6	0 = ‘No contact with neighbours’ 1 = ‘Daily’ 2 = ‘2-3 times a week’ 3 = “At least weekly’ 4 = “At least monthly’ 5 = ‘Less often than monthly’	reconq6	1 = ‘At least monthly’ 2 = ‘Less often’
		reco2nq6	1 = ‘Weekly or more often’ 2 = ‘At least monthly’ 3 = ‘Less often or never’
		reco3nq6	1 = ‘Weekly or more often’ 2 = ‘Less often’
		reco4nq6	1 = ‘Few times a week or daily’ 2 = ‘Weekly or less often’
nq7	0 = ‘No’ 1 = ‘Yes, regularly’ 2 = ‘Yes, occasionally’	reconq7	1 = ‘Yes’ 2 = ‘No’
		reco2nq7	1 = ‘Yes, regularly’ 2 = ‘Occasionally or no’
nq8	0 = ‘No’ 1 = ‘Yes, regularly’ 2 = ‘Yes, occasionally’	reconq8	1 = ‘Yes’ 2 = ‘No’
		reco2nq8	1 = ‘Yes, regularly’ 2 = ‘Occasionally or no’
eq4a	0 = ‘Never / no relative’ 1 = ‘Daily’ 2 = ‘2-3 times a week’ 3 = “At least weekly’ 4 = “At least monthly’ 5 = ‘Less often than monthly’	recoeq4a	1 = ‘Few times a week or daily’ 2 = ‘Weekly or less often’
		reco2eq4a	1 = ‘Weekly or more often’ 2 = ‘Less often’
eq4b	0 = ‘Never / no relative’ 1 = ‘Daily’ 2 = ‘2-3 times a week’ 3 = “At least weekly’ 4 = “At least monthly’ 5 = ‘Less often than monthly’	recoeq4b	1 = ‘Weekly or more often’ 2 = ‘Less often or never’
eq5a	0 = ‘Never / no friend’ 1 = ‘Daily’ 2 = ‘2-3 times a week’ 3 = “At least weekly’ 4 = “At least monthly’ 5 = ‘Less often than monthly’	recoeq5a	1 = ‘Weekly or more often’ 2 = ‘Less often or never’
		reco2eq5a	1 = ‘Few times a week or daily’ 2 = ‘Weekly or less often’
eq5b	0 = ‘Never / no friend’ 1 = ‘Daily’ 2 = ‘2-3 times a week’ 3 = “At least weekly’ 4 = “At least monthly’ 5 = ‘Less often than monthly’	recoeq5b	1 = ‘Weekly or more often’ 2 = ‘Less often or never’
		reco2eq5b	1 = ‘Monthly or more often’ 2 = ‘Less often or never’

Appendix 14: Research Study Letter to Interview Participants

School of Health Services
GPO Box 2100
Adelaide SA 5001
Tel: 0476 851 084
Email: beye0007@flinders.edu.au
www.flinders.edu.au
CRICOS Provider No. 00114A

Social networks in older age

Dear _____,

We recently spoke on the phone. My name is Suzy Byers. I am a research student at Flinders University, and my supervisor is Dr Sam Davis, from the School of Health Sciences at Flinders University.

As we discussed on the phone, in 2015 you completed a questionnaire and as part of that questionnaire you indicated that you would be interested participating in an interview with me to talk about what helps you to live independently in the community as you get older.

Before we make a time to meet, it is important that you have all the information you need to make an informed decision about being involved in an interview. Please read the following information carefully.

About the interviews

The purpose of the interviews is to understand more about the different types of support older people receive from their families, friends, neighbours and other social acquaintances and how they go about requesting that help or support. There will also be an opportunity to discuss what services older people may prefer to pay for and how that impacts on their relationships with others.

Participation in the interviews

I will be arranging interviews in your community between November 2016 and February 2017. We can agree to meet in your home or you are welcome to choose another venue where we can talk privately.

Even if you agree a time to be interviewed, you can change your mind. Your participation in this research is your choice and you can withdraw at any time. If you do participate in the interview, it is important that you know that you can decline to answer any question or stop the interview at any time.

I would also like to record the interview so that I can listen to your stories again if I need to, however this will only occur with your permission. If you do agree to the interview being recorded, it is important that you know that you can request the recording is stopped at any time.

At the end of the interview, you will be provided with an opportunity to request the withdrawal of any of the information provided to me during the interview. All recordings will be written up into an 'interview transcript' and this transcript can also be made available to you upon request for review and editing prior to my analysis.

I have attached a consent form that outlines all of these conditions and we will complete this consent form together before we start the interview.

Protecting your privacy

Your privacy will be maintained at all times. All information (recordings and written records) from the interviews will be treated as confidential at all times. My thesis, all publications and any other published material based on this research will not identify information with any specific person. So any information you provide will be used in a way that will make it impossible for you to be identified.

Once the research is completed, the information will be kept in a secure location on university property for a period of five years, after which time it will be destroyed. If you have any questions or concerns about the interview process or any aspect of the research study, you can contact either me or my supervisor, Dr Sam Davis.

Suzy Byers, School of Health Sciences, GPO Box 2100, Adelaide, SA 5001
Email: beye0007@flinders.edu.au or Phone number: 0476 851 084

Dr Sam Davis, School of Health Sciences, GPO Box 2100, Adelaide, SA 5001
Email: sam.davis@flinders.edu.au or Phone numbers: 0437 811 618

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (#6683). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on (08) 8201 3116, by fax on (08) 8201 2035 or by email: human.researchethics@flinders.edu.au

I look forward to speaking with you soon

Yours sincerely

Suzy Byers

16 / 01 / 2017

CONSENT FORM FOR PARTICIPATION IN RESEARCH (BY INTERVIEW)

SOCIAL NETWORKS IN OLDER PEOPLE

I .....

being over the age of 18 years hereby consent to participate as requested in an interview for the research project on how older rural people receive support from family, friends, neighbours and other social acquaintances.

1. I have read the information provided.
2. Details of procedures and any risks have been explained to my satisfaction.
3. I agree to audio recording of the interview.
4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.
5. I understand that:
    - I may not directly benefit from taking part in this research.
    - I am free to withdraw from the project at any time and am free to decline to answer particular questions.
    - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
    - I may ask that the recording be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.
6. I agree/ do not agree to the interview transcript being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed.

Participant's signature.....Date.....

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name.....

Researcher's signature.....Date.....

Appendix 15: Interview Schedule

1. Introduction of self and the study
2. Confirm consent and interview process and sign /witness consent form
3. Note the interview is semi-structured – which means some questions will be asked but there is also the opportunity to share any other information and to ask any questions
4. Clarify demographics already provided in the questionnaire [such as age and living arrangements – to see if anything has changed]
5. Repeat network questions [to help remind people of their first contributions] to explore quality of relationships with different network ties
    - Family including children and siblings and friends [proximity and frequency of contact]
        i. Who do you feel closest to? Why? [emotional and/or physical support]
        ii. Do they live close by?
    - Neighbours [frequency of contact]
        i. Quality of relationship [physical and/or emotional support]
    - Getting out and about – religious services, community meetings, social clubs, interests [types of activities, things that may impact on frequency of attendance etc]
6. Approximate number of people in network? [Subjective guess by older person]
7. Experience of living in a rural community – bit more about your day-to-day life – what you do, where you go, even how long some things take to do?
8. Who do you turn to if you are feeling lonely? Or need a chat? Do you often feel lonely?
9. Who might give you a hand with something – lifting something heavy, taking care of animals, car or house maintenance?
    - Do you ask for help or do you wait until people offer or visit?
    - Does it depend on what you need done or how quickly you need something done?
10. Reciprocity in relationships – is this important?
11. Sometimes family want to help but are there some tasks/jobs that you prefer to pay for? What are they? Why?
12. Are you able to pay for them or are they covered by pension/DVA/other scheme? Is it easy to stop your family from helping? Does this impact your relationship/s?
13. What about if you become physically unwell? Is it easy to see a doctor? How do you get there?
14. Do you drive? Do you think about when you may be able to no longer drive? Does it worry you?
15. Do you think about when you can no longer live independently? How often? Does it worry you? What circumstances may occur to make you consider moving from this house?

Appendix 16: Study Sample Network Frequencies

Distance (km)	< 2	3-10	11-20	21-100	> 100	None	N
To closest relative	80 (20%)	65 (16%)	39 (10%)	38 (9%)	176 (44%)	2 (1%)	400 (100%)
To closest child	67 (17%)	51 (13%)	32 (8%)	36 (9%)	192 (48%)	21 (5%)	399 (100%)
To closest sibling	18 (5%)	28 (7%)	13 (3%)	31 (8%)	233 (58%)	77 (19%)	400 (100%)

Frequency of contact	Daily	2-3 / week	Weekly	Monthly	Less often	No contact	N
Relatives - in person	45 (11%)	56 (14%)	65 (16%)	68 (17%)	164 (41%)	5 (1%)	403 (100%)
Relatives - by phone	60 (15%)	85 (21%)	157 (39%)	76 (19%)	21 (5%)	5 (1%)	404 (100%)
Relatives - by ICT	34 (9%)	73 (18%)	105 (26%)	70 (18%)	45 (11%)	70 (18%)	397 (100%)
Friends - in person	51 (13%)	119 (29%)	157 (39%)	54 (13%)	13 (3%)	12 (3%)	406 (100%)
Friends - by phone	45 (11%)	77 (19%)	161 (40%)	72 (18%)	42 (10%)	9 (2%)	406 (100%)
Friends - by ICT	20 (5%)	50 (13%)	95 (24%)	75 (19%)	62 (16%)	88 (23%)	390 (100%)
Neighbours - in person	31 (8%)	99 (24%)	120 (30%)	73 (18%)	57 (14%)	24 (6%)	404 (100%)

Frequency of attendance	Yes, regularly	Yes, occasionally	No	N
Religious services/events	76 (19%)	44 (11%)	286 (70%)	406 (100%)
Social groups/activities	219 (54%)	57 (14%)	128 (32%)	404 (100%)

Appendix 17: Study Sample Chi-Square Tests

SS01: Marital status by gender

			Gender ('gender')		Total
			Female	**Male**	
Marital status ('marital')	Married	Count	112	112	224
		% within gender	47.9	65.5	55.3
	Widowed	Count	92	23	115
		% within gender	39.3	13.5	28.4
	Not married	Count	24	27	51
		% within gender	10.3	15.8	12.6
	Never married	Count	6	9	15
		% within gender	2.6	5.3	3.7
Total		Count	234	171	**405**
		% within gender	100.0	100.0	100.0
χ^2 (3,405) = 33.179, ***p* < .001**					

SS02: Living arrangements by gender

			Gender ('gender')		Total
			Female	**Male**	
Living arrangements ('living')	Live alone	Count	104	56	160
		% within gender	46.8	35.4	42.1
	Live with others	Count	118	102	220
		% within gender	53.2	64.6	57.9
Total		Count	222	158	**380**
		% within gender	100.0	100.0	100.0
χ^2 (1,380) = 4.924, ***p* = .026**					

SS03: Distance of closest relative by gender

			Gender ('gender')		Total
			Female	**Male**	
Distance of closest relative ('reconq1>1')	Within 100km	Count	135	86	221
		% within gender	58.4	52.1	55.8
	100km or further	Count	96	79	175
		% within gender	41.6	47.9	44.2
Total		Count	231	165	**396**
		% within gender	100.0	100.0	100.0
χ^2 (1,396) = 1.559, *p* = .212					

SS04: Distance of closest relative by marital status

			Marital status ('marital')				Total
			Married	**Widowed**	**Not married**	**Never married**	
Distance of closest relative ('reconq1>1')	Within 100km	Count	118	74	19	10	221
		% within marital status	52.7	67.3	39.6	71.4	55.8
	100km or further	Count	106	36	29	4	175
		% within marital status	47.3	32.7	60.4	28.6	44.2
Total		Count	224	110	48	14	**396**
		% within marital status	100.0	100.0	100.0	100.0	100.0

χ^2 (3,396) = 13.260, ***p* = .004**

SS05: Distance of closest relative by living arrangements

			Living arrangements ('living')		Total
			Live alone	**Live with others**	
Distance of closest relative ('reconq1>1')	Within 100km	Count	85	118	203
		% within living arrangements	55.9	54.4	55.0
	100km or further	Count	67	99	166
		% within living arrangements	44.1	45.6	45.0
Total		Count	152	217	**369**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,369) = 0.086, *p* = .769

SS06: Marital status by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Marital status ('remarital')	Married	Count	69	72	81	222
		% within size of town	53.9	50.0	62.8	55.4
	Widowed	Count	44	45	25	114
		% within size of town	34.4	31.3	19.4	28.4
	Not married or never married	Count	15	27	23	65
		% within size of town	11.7	18.8	17.8	16.2
Total		Count	128	144	129	**401**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (4,401) = 10.168, ***p* = .038**

SS07: Distance of closest relative by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Distance of closest relative ('reconq1>1')	Within 100km	Count	86	64	69	219
		% within size of town	69.9	45.4	53.9	55.9
	100km or further	Count	37	77	59	173
		% within size of town	30.1	54.6	46.1	44.1
Total		Count	123	141	128	**392**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,392) = 16.327, ***p* < .001**

SS08: Length of residency by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Length of residency ('codearea3')	Less than 25 years	Count	67	97	74	238
		% within size of town	52.3	67.8	56.9	59.4
	25 years or more	Count	61	46	56	163
		% within size of town	47.7	32.2	43.1	40.6
Total		Count	128	143	130	**401**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,401) = 7.186, ***p* = .028**

SS09: Age group by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Age group ('recoage3')	65 – 74 years	Count	55	75	83	213
		% within size of town	42.6	52.1	63.8	52.9
	75 – 84 years	Count	50	54	39	143
		% within size of town	38.8	37.5	30.0	35.5
	85 years or older	Count	24	15	8	47
		% within size of town	18.6	10.4	6.2	11.7
Total		Count	129	144	130	**403**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (4,403) = 16.098, ***p* = .003**

SS10: Involvement in social group and community activity by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	69	84	66	219
		% within size of town	54.8	59.2	50.8	55.0
	Occasionally or no	Count	57	58	64	179
		% within size of town	45.2	40.8	49.2	45.0
Total		Count	126	142	130	**403**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,398) = 1.934, p = .380

SS11: Involvement in social group and community activity by age group

			Age group ('recoage3')			Total
			65-74 yrs	**75-84 yrs**	**85 yrs +**	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	111	81	27	219
		% within age group	52.1	56.6	56.3	54.2
	Occasionally or no	Count	102	62	21	185
		% within age group	47.9	43.4	43.8	45.8
Total		Count	213	143	48	**404**
		% within age group	100.0	100.0	100.0	100.0

χ^2 (2,404) = 0.799, p = .671

SS12: Involvement in social group and community activity by marital status

			Marital status ('marital')				Total
			Married	Widowed	Not married	Never married	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	119	70	23	6	218
		% within marital status	53.4	61.4	45.1	42.9	54.2
	Occasionally or no	Count	104	44	28	8	184
		% within marital status	46.6	38.6	54.9	57.1	45.8
Total		Count	223	114	51	14	**402**
		% within marital status	100.0	100.0	100.0	100.0	100.0

χ^2 (3,402) = 4.874, p = .181

SS13: Involvement in social group and community activity by marital status by living

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	88	114	202
		% within living arrangements	56.1	52.3	53.9
	Occasionally or no	Count	69	104	173
		% within living arrangements	43.9	47.7	46.1
Total		Count	157	218	**375**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,375) = 0.519, p = .471

arrangements

SS14: Involvement in social group and community activity by length of residency

			Length of residency ('codearea3')		Total
			Less than 25 yrs	25 yrs or more	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	122	95	217
		% within length of residency	51.3	57.9	54.0
	Occasionally or no	Count	116	69	185
		% within length of residency	48.7	42.1	46.0
Total		Count	238	164	**402**
		% within length of residency	100.0	100.0	100.0

χ^2 (1,402) = 1.737, p = .188

SS15: Involvement in social group and community activity by gender

			Gender ('gender')		Total
			Female	Male	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	142	76	218
		% within gender	60.9	45.0	54.2
	Occasionally or no	Count	91	93	184
		% within gender	39.1	55.0	45.8
Total		Count	233	169	**402**
		% within gender	100.0	100.0	100.0

χ^2 (1,402) = 10.070, ***p* = .002**

SS16: Involvement in social group and community activity by health status

			Health status ('health')			Total
			Generally good	Bit up and down	Generally poor	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	166	47	5	218
		% within health status	57.0	50.5	27.8	54.2
	Occasionally or no	Count	125	46	13	184
		% within health status	43.0	49.5	72.2	45.8
Total		Count	291	93	18	**402**
		% within health status	100.0	100.0	100.0	100.0
χ^2 (2,402) = 6.514, ***p* = .039**						

SS17: Distance of closest relative by health status

			Health status ('health')			Total
			Generally good	Bit up and down	Generally poor	
Distance of closest relative ('reconq1>1')	Within 100km	Count	166	47	5	218
		% within health status	57.0	50.5	27.8	54.2
	100km or further	Count	125	46	13	184
		% within health status	43.0	49.5	72.2	45.8
Total		Count	291	93	18	**402**
		% within health status	100.0	100.0	100.0	100.0
χ^2 (2,402) = 6.514, ***p* = .039**						

SS18: Frequency of telephone calls with relatives by health status

			Health status ('health')			Total
			Generally good	Bit up and down	Generally poor	
Frequency of telephone calls ('reco2eq4a')	Weekly or more often	Count	220	67	14	301
		% within health status	75.6	71.3	82.4	74.9
	Less often	Count	71	27	3	101
		% within health status	24.4	28.7	17.6	25.1
Total		Count	291	94	17	**402**
		% within health status	100.0	100.0	100.0	100.0
χ^2 (2,402) = 1.234, p = .540						

SS19: Frequency of ICT use with relatives by health status

			Health status ('health')			Total
			Generally good	Bit up and down	Generally poor	
Frequency of ICT use ('recoeq4b')	Weekly or more often	Count	159	43	10	212
		% within health status	55.0	48.3	58.8	53.7
	Less often or never	Count	130	46	7	183
		% within health status	45.0	51.7	41.2	46.3
Total		Count	289	89	17	**395**
		% within health status	100.0	100.0	100.0	100.0
χ^2 (2,395) = 1.419, p = .492						

SS20: Frequency of telephone calls with relatives by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	97	47	144
		% within gender	41.6	27.8	35.8
	Weekly or less often	Count	136	122	258
		% within gender	58.4	72.2	64.2
Total		Count	233	169	**402**
		% within gender	100.0	100.0	100.0

χ^2 (1,402) = 8.138, ***p* = .004**

SS21: Frequency of telephone calls with friends by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	138	73	211
		% within gender	61.1	43.2	53.4
	Less often or never	Count	88	96	184
		% within gender	38.9	56.8	46.6
Total		Count	226	169	**395**
		% within gender	100.0	100.0	100.0

χ^2 (1,395) = 12.405, ***p* < .001**

SS22: Frequency of ICT use with relatives by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	172	109	281
		% within gender	73.8	63.7	69.6
	Less often or never	Count	61	62	123
		% within gender	26.2	36.3	30.4
Total		Count	233	171	**404**
		% within gender	100.0	100.0	100.0

χ^2 (1,404) = 4.729, ***p* = .030**

SS23: Post-secondary education by gender

			Gender ('gender')		Total
			Female	Male	
Education levels ('educ>3')	Technical and Further Education (TAFE) certification	Count	30	53	83
		% within gender	29.7	54.6	41.9
	Tertiary education (University qualification)	Count	71	44	115
		% within gender	70.3	45.4	58.1
Total		Count	101	97	**198**
		% within gender	100.0	100.0	100.0

χ^2 (1,198) = 12.637, ***p* < .001**

Appendix 18: Inferential Statistics

Chi-Square (χ^2) Goodness of Fit test

For a chi-square goodness of fit test, the hypotheses take the following form.

H_0: The data are consistent with a specified distribution.

H_a: The data are *not* consistent with a specified distribution.

Typically, the null hypothesis (H_0) specifies the proportion of observations at each level of the categorical variable. The alternative hypothesis (H_a) is that *at least* one of the specified proportions is not true.

All Females Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females 65 – 74 years; 75 – 84 years and 85 years and older are 54.6%, 32.0% and 13.4% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=235):

65 – 74 years = 132 (56.2%)

75 – 84 years = 81 (34.5%)

85 years and older = 22 (9.4%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 235 * 0.546 (54.6\%) = 128$

$E_2 = 235 * 0.320 (32.0\%) = 75$

$E_3 = 235 * 0.134 (13.4\%) = 32$

$x^2 = \text{Sum} [(132 – 128)^2 / 128] + [(81 – 75)^2 / 128] + [(22 – 32)^2 / 32]$

$x^2 = \text{Sum} [(4)^2 / 128] + [(6)^2 / 75] + [(10)^2 / 32]$

$x^2 = \text{Sum} [(16 / 128) + (36 / 75) + (100 / 32)]$

$x^2 = \text{Sum} [0.13 + 0.48 + 3.13]$

$x^2 = 3.74$

$\chi^2 (2,235) = 3.740, p = .150$

All Males Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males 65 – 74 years; 75 – 84 years and 85 years and older are 60.5%, 30.4% and 9.1% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=172):

65 – 74 years = 84 (48.8%)

75 – 84 years = 62 (36.0%)

85 years and older = 26 (15.1%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 172 * 0.605 (60.5\%) = 104$

$E_2 = 172 * 0.304 (30.4\%) = 52$

$E_3 = 172 * 0.091 (9.1\%) = 16$

$x^2 = \text{Sum} [(84 – 104)^2 / 104] + [(62 – 52)^2 / 52] + [(26 – 16)^2 / 16]$

$x^2 = \text{Sum} [(20)^2 / 104] + [(10)^2 / 52] + [(10)^2 / 16]$

$x^2 = \text{Sum} [(400 / 104) + (100 / 52) + (100 / 16)]$

$x^2 = \text{Sum} [3.85 + 1.92 + 6.25]$

$x^2 = 12.02$

χ^2 **(**2,172) = 12.020, ***p*** **= .002**

Married Females Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females married at ages 65 – 74 years; 75 – 84 years and 85 years and older are 69.7%, 26.3% and 4.0% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=112):

65 – 74 years = 82 (73.2%)

75 – 84 years = 29 (25.9%)

85 years and older = 1 (0.9%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 112 * 0.697 (69.7\%) = 78$

$E_2 = 112 * 0.263 (26.3\%) = 30$

$E_3 = 112 * 0.040 (4.0\%) = 4$

$x^2 = \text{Sum} [(82 – 78)^2 / 78] + [(29 – 30)^2 / 1] + [(1 – 4)^2 / 5]$

$x^2 = \text{Sum} [(4)^2 / 78] + [(1)^2 / 30] + [(3)^2 / 5]$

$x^2 = \text{Sum} [(16 / 78) + (1 / 30) + (9 / 5)]$

$x^2 = \text{Sum} [0.21 + 0.03 + 1.80]$

$x^2 = 2.04$

$\chi^2 (2,112) = 2.040, p = .360$

Married Males Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males married at ages 65 – 74 years; 75 – 84 years and 85 years and older are 63.2%, 30.3% and 6.5% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=112):

65 – 74 years = 62 (55.4%)

75 – 84 years = 39 (34.8%)

85 years and older = 11 (9.8%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 112 * 0.632 (63.2\%) = 71$

$E_2 = 112 * 0.303 (30.3\%) = 34$

$E_3 = 112 * 0.065 (6.5\%) = 7$

$x^2 = \text{Sum} [(62 – 71)^2 / 71] + [(39 – 34)^2 / 34] + [(11 – 7)^2 / 7]$

$x^2 = \text{Sum} [(-9)^2 / 71] + [(5)^2 / 34] + [(4)^2 / 7]$

$x^2 = \text{Sum} [(81 / 71) + (25 / 34) + (16 / 7)]$

$x^2 = \text{Sum} [1.14 + 0.74 + 2.29]$

$x^2 = 4.17$

$\chi^2 (2,92) = 4.170, p = .120$

Widowed Females Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females widowed at ages 65 – 74 years; 75 – 84 years and 85 years and older are 27.4%, 42.8% and 29.8% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=92):

65 – 74 years = 29 (31.5%)

75 – 84 years = 43 (46.7%)

85 years and older = 20 (21.7%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 92 * 0.274 (27.4\%) = 25$

$E_2 = 92 * 0.428 (42.8\%) = 39$

$E_3 = 92 * 0.298 (29.8\%) = 27$

$x^2 = \text{Sum} [(29 – 25)^2 / 25] + [(43 – 39)^2 / 39] + [(20 – 27)^2 / 27]$

$x^2 = \text{Sum} [(4)^2 / 25] + [(4)^2 / 39] + [(7)^2 / 27]$

$x^2 = \text{Sum} [(16 / 25) + (16 / 39) + (49 / 27)]$

$x^2 = \text{Sum} [0.64 + 0.41 + 1.8]$

$x^2 = 2.85$

$\chi^2 (2,92) = 2.850, p = .240$

Widowed Males Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males widowed at ages 65 – 74 years; 75 – 84 years and 85 years and older are 26.0%, 41.6% and 32.4% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=23):

65 – 74 years = 1 (4.3%)

75 – 84 years = 11 (47.8%)

85 years and older = 11 (47.8%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 23 * 0.260 (26.0\%) = 6$

$E_2 = 23 * 0.416 (41.6\%) = 10$

$E_3 = 23 * 0.324 (32.4\%) = 7$

$x^2 = \text{Sum} [(1 – 6)^2 / 6] + [(11 – 10)^2 / 10] + [(11 – 7)^2 / 7]$

$x^2 = \text{Sum} [(5)^2 / 6] + [(1)^2 / 10] + [(4)^2 / 7]$

$x^2 = \text{Sum} [(25 / 6) + (1 / 10) + (16 / 7)]$

$x^2 = \text{Sum} [4.17 + 0.10 + 2.29]$

$x^2 = 6.56$

$\chi^2 (2,23) = 6.560$, ***p* = 0.040**

Not Married Females Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females not married at ages 65 – 74 years; 75 – 84 years and 85 years and older are 68.9%, 24.9% and 6.1% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=30):

65 – 74 years = 20 (66.7%)

75 – 84 years = 9 (30.0%)

85 years and older = 1 (3.3%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 30 * 0.689 (68.9\%) = 21$

$E_2 = 30 * 0.249 (24.9\%) = 7$

$E_3 = 30 * 0.061 (6.1\%) = 2$

$x^2 = \text{Sum} [(20 – 21)^2 /] + [(9 – 7)^2 / 7] + [(2 – 1)^2 / 2]$

$x^2 = \text{Sum} [(1)^2 / 21] + [(2)^2 / 7] + [(1)^2 / 2]$

$x^2 = \text{Sum} [(1 / 21) + (4 / 7) + (1 / 2)]$

$x^2 = \text{Sum} [0.05 + 0.57 + 0.50]$

$x^2 = 1.12$

$\chi^2 (2,30) = 1.120, p = .570$

Not Married Males Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males not married at ages 65 – 74 years; 75 – 84 years and 85 years and older are 71.8%, 23.5% and 4.7% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=36):

65 – 74 years = 20 (55.6%)

75 – 84 years = 12 (33.3%)

85 years and older = 4 (11.1%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 36 * 0.718 (71.8\%) = 26$

$E_2 = 36 * 0.235 (23.5\%) = 8$

$E_3 = 36 * 0.047 (4.7\%) = 2$

$x^2 = \text{Sum} [(20 – 26)^2 / 26] + [(12 – 8)^2 / 8] + [(4 – 2)^2 / 2]$

$x^2 = \text{Sum} [(6)^2 / 26] + [(4)^2 / 8] + [(2)^2 / 2]$

$x^2 = \text{Sum} [(36 / 26) + (16 / 8) + (4 / 2)]$

$x^2 = \text{Sum} [1.38 + 2.00 + 2.00]$

$x^2 = 5.38$

$\chi^2 (2,36) = 5.380, p = .070$

Females Living Alone Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females living alone at ages 65 – 74 years; 75 – 84 years and 85 years and older are 37.0%, 44.2% and 18.8% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=104):

65 – 74 years = 42 (40.4%)

75 – 84 years = 45 (43.3%)

85 years and older = 17 (16.3%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 104 * 0.370 (37.0\%) = 38$

$E_2 = 104 * 0.442 (44.2\%) = 46$

$E_3 = 104 * 0.188 (18.8\%) = 20$

$x^2 = \text{Sum} [(42 – 38)^2 / 38] + [(45 – 46)^2 / 46] + [(17 – 20)^2 / 20]$

$x^2 = \text{Sum} [(4)^2 / 38] + [(1)^2 / 46] + [(-3)^2 / 20]$

$x^2 = \text{Sum} [(16 / 38) + (1 / 46) + (9 / 20)]$

$x^2 = \text{Sum} [0.42 + 0.02 + 0.45]$

$x^2 = 0.89$

$\chi^2 (2,104) = 0.890, p = .640$

Males Living Alone Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males living alone at ages 65 – 74 years; 75 – 84 years and 85 years and older are 52.2%, 33.7% and 14.0% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=56):

65 – 74 years = 21 (37.5%)

75 – 84 years = 21 (37.5%)

85 years and older = 14 (25.0%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 56 * 0.522 (52.2\%) = 29$

$E_2 = 56 * 0.337 (33.7\%) = 19$

$E_3 = 56 * 0.140 (14.0\%) = 8$

$x^2 = \text{Sum} [(21 – 29)^2 / 29] + [(21 – 19)^2 / 19] + [(14 – 8)^2 / 8]$

$x^2 = \text{Sum} [(-8)^2 / 29] + [(2)^2 / 19] + [(6)^2 / 8]$

$x^2 = \text{Sum} [(64 / 29) + (4 / 19) + (36 / 8)]$

$x^2 = \text{Sum} [2.20 + 0.21 + 4.50]$

$x^2 = 6.91$

$\chi^2 (2,56) = 6.910$, ***p* = .030**

Females Living with Others Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females living with others at ages 65 – 74 years; 75 – 84 years and 85 years and older are 68.0%, 26.8% and 5.1% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=118):

65 – 74 years = 84 (71.2%)

75 – 84 years = 31 (26.3%)

85 years and older = 3 (2.5%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 118 * 0.680 (68.0\%) = 80$

$E_2 = 118 * 0.268 (26.8\%) = 32$

$E_3 = 118 * 0.051 (5.1\%) = 6$

$x^2 = \text{Sum} [(84 – 80)^2 / 80] + [(31 – 32)^2 / 32] + [(3 – 6)^2 / 6]$

$x^2 = \text{Sum} [(4)^2 / 80] + [(1)^2 / 32] + [(3)^2 / 6]$

$x^2 = \text{Sum} [(16 / 80) + (1 / 32) + (9 / 6)]$

$x^2 = \text{Sum} [0.20 + 0.03 + 1.50]$

$x^2 = 1.73$

$\chi^2 (2,118) = 1.730, p = .420$

Males Living with Others Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males living with others at ages 65 – 74 years; 75 – 84 years and 85 years and older are 62.6%, 30.8% and 6.6% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=102):

65 – 74 years = 57 (55.9%)

75 – 84 years = 35 (34.3%)

85 years and older = 10 (9.8%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 102 * 0.626 (62.6\%) = 64$

$E_2 = 102 * 0.308 (30.8\%) = 31$

$E_3 = 102 * 0.066 (6.6\%) = 7$

$x^2 = \text{Sum} [(57 – 64)^2 / 64] + [(35 – 31)^2 / 31] + [(10 – 7)^2 / 7]$

$x^2 = \text{Sum} [(-7)^2 / 64] + [(4)^2 / 31] + [(3)^2 / 7]$

$x^2 = \text{Sum} [(49 / 64) + (16 / 31) + (9 / 7)]$

$x^2 = \text{Sum} [0.77 + 0.52 + 1.29]$

$x^2 = 2.58$

$\chi^2 (2,102) = 2.580, p = .270$

Females TAFE certification profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males living with others at ages 65 – 74 years; 75 – 84 years and 85 years and older are 67.6%, 24.6% and 7.9% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=30):

65 – 74 years = 16 (53.3%)

75 – 84 years = 13 (43.3%)

85 years and older = 1 (3.3%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 30 * 0.676 (67.6\%) = 20$

$E_2 = 30 * 0.246 (24.6\%) = 8$

$E_3 = 30 * 0.079 (7.9\%) = 2$

$x^2 = \text{Sum} [(16 – 20)^2 / 20] + [(13 – 8)^2 / 8] + [(1 – 2)^2 / 2]$

$x^2 = \text{Sum} [(-4)^2 / 20] + [(5)^2 / 8] + [(-1)^2 / 2]$

$x^2 = \text{Sum} [(16 / 20) + (25 / 8) + (1 / 2)]$

$x^2 = \text{Sum} [0.80 + 3.13 + 0.50]$

$x^2 = 4.43$

$\chi^2 (2,30) = 4.430, p = .109$

Male TAFE certification profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males living with others at ages 65 – 74 years; 75 – 84 years and 85 years and older are 67.4%, 26.2% and 5.4% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=53):

65 – 74 years = 23 (43.4%)

75 – 84 years = 20 (37.7%)

85 years and older = 10 (18.9%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 53 * 0.674 (67.4\%) = 36$

$E_2 = 53 * 0.262 (26.2\%) = 14$

$E_3 = 53 * 0.054 (5.4\%) = 3$

$x^2 = \text{Sum} [(23 – 36)^2 / 36] + [(20 – 14)^2 / 14] + [(10 – 3)^2 / 3]$

$x^2 = \text{Sum} [(-13)^2 / 36] + [(6)^2 / 14] + [(7)^2 / 3]$

$x^2 = \text{Sum} [(169 / 36) + (36 / 14) + (49 / 3)]$

$x^2 = \text{Sum} [4.69 + 2.57 + 16.3]$

$x^2 = 23.56$

$\chi^2 (2,53) = 23.560$, ***p* = <.001**

Female University Qualification Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of females with university qualifications at ages 65 – 74 years; 75 – 84 years and 85 years and older are 66.9%, 27.0% and 6.1% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=71):

65 – 74 years = 44 (62.0%)

75 – 84 years = 22 (31.0%)

85 years and older = 5 (7.0%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 71 * 0.669 (66.9\%) = 48$

$E_2 = 71 * 0.270 (27.0\%) = 19$

$E_3 = 71 * 0.061 (6.1\%) = 4$

$x^2 = \text{Sum} [(44 – 48)^2 / 48] + [(22 – 19)^2 / 19] + [(5 – 4)^2 / 4]$

$x^2 = \text{Sum} [(-4)^2 / 48] + [(3)^2 / 19] + [(1)^2 / 4]$

$x^2 = \text{Sum} [(16 / 48) + (9 / 19) + (1 / 4)]$

$x^2 = \text{Sum} [0.33 + 0.47 + 0.25]$

$x^2 = 1.050$

$\chi^2 (2,71) = 1.050, p = .592$

Male University Qualification Profile: Comparing the Study Sample with East Gippsland Region

Null hypothesis: The proportions of males living with others at ages 65 – 74 years; 75 – 84 years and 85 years and older are 72.4%, 24.4% and 3.1% respectively.

Alternative hypothesis: At least one of the proportions in the null hypothesis is false.

Study Population results (N=44):

65 – 74 years = 30 (68.2%)

75 – 84 years = 14 (31.8%)

85 years and older = 0 (0.0%)

Degrees of Freedom: 2

$x^2 = \text{Sum} [(O_i – E_i)^2 / E_i]$

$E_1 = 44 * 0.724 (72.4\%) = 32$

$E_2 = 44 * 0.244 (24.4\%) = 11$

$E_3 = 44 * 0.031 (3.1\%) = 1$

$x^2 = \text{Sum} [(30 – 32)^2 / 32] + [(14 – 11)^2 / 11] + [(0 – 1)^2 / 1]$

$x^2 = \text{Sum} [(-2)^2 / 32] + [(3)^2 / 11] + [(-1)^2 / 1]$

$x^2 = \text{Sum} [(4 / 32) + (9 / 11) + (1 / 1)]$

$x^2 = \text{Sum} [0.13 + 0.82 + 1.00]$

$x^2 = 1.95$

$\chi^2 (2,44) = 1.950, p = .377$

Appendix 19: Wider Community-Focused Support Network Frequencies

Distance (km)	< 2	3-10	11-20	21-100	> 100	None	N
To closest relative	7 (5%)	9 (6%)	5 (3%)	20 (14%)	105 (72%)	0 (0%)	146 (100%)
To closest child	4 (3%)	6 (4%)	2 (1%)	18 (12%)	109 (74%)	8 (5%)	147 (100%)
To closest sibling	1 (1%)	5 (3%)	2 (2%)	5 (3%)	99 (67%)	35 (24%)	147 (100%)

Frequency of contact	Daily	2-3 / week	Weekly	Monthly	Less often	No contact	N
Relatives - in person	1 (1%)	5 (3%)	12 (8%)	37 (25%)	92 (63%)	0 (0%)	147 (100%)
Relatives - by phone	12 (8%)	31 (21%)	65 (44%)	33 (23%)	5 (3%)	1 (1%)	147 (100%)
Relatives - by ICT	5 (3%)	31 (22%)	43 (30%)	32 (22%)	22 (15%)	12 (8%)	145 (100%)
Friends - in person	26 (18%)	53 (36%)	61 (41%)	6 (4%)	1 (1%)	0 (0%)	147 (100%)
Friends - by phone	19 (13%)	40 (27%)	56 (38%)	17 (12%)	13 (9%)	2 (1%)	147 (100%)
Friends - by ICT	9 (6%)	22 (15%)	40 (28%)	28 (19%)	24 (17%)	21 (15%)	144 (100%)
Neighbours - in person	6 (4%)	45 (31%)	53 (36%)	35 (24%)	6 (4%)	1 (1%)	146 (100%)

Frequency of attendance	Yes, regularly	Yes, occasionally	No	N
Religious services/events	37 (25%)	27 (18%)	83 (57%)	147 (100%)
Social groups/activities	116 (79%)	13 (9%)	18 (12%)	147 (100%)

Appendix 20: Wider Community Focused Network Chi-Square Tests

WCF01: Distance of closest relative by length of residency

			Length of residency ('codearea3')		Total
			<25 years	25 years or more	
Distance of closest relative ('reconq1>1')	Within 100km	Count	20	21	41
		% within length of residency	21.3	40.4	28.1
	100km or further	Count	74	31	105
		% within length of residency	78.7	59.6	71.9
Total		Count	94	52	**146**
		% within length of residency	100.0	100.0	100.0

χ^2 (1,146) = 6.053, ***p* = .014**, Cramer's V = .204

WCF02: Distance of closest relative by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Distance of closest relative ('reconq1>1')	Within 100km	Count	19	13	9	41
		% within size of town	43.2	22.8	20.5	28.3
	100km or further	Count	25	44	35	104
		% within size of town	56.8	77.2	79.5	71.7
Total		Count	44	57	44	**145**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,145) = 6.988, ***p* = .030**, Cramer's V = .220

WCF03: Length of residency by age group

			Age group ('recoage2')		Total
			65-74 yrs	75 yrs +	
Length of residency ('codearea3')	Less than 25 years	Count	58	36	94
		% within age groups	70.7	55.4	64.4
	25 years or more	Count	23	29	53
		% within age groups	29.3	44.6	36.1
Total		Count	82	65	**147**
		% within age groups	100.0	100.0	100.0

χ^2 (1,147) = 3.704, ***p* = .054**, Cramer's V = .159

WCF04: Length of residency by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Length of residency ('codearea3')	Less than 25 years	Count	79	15	94
		% within health status	68.1	48.4	63.9
	25 years or more	Count	37	16	53
		% within health status	31.9	51.6	36.1
Total		Count	116	31	**147**
		% within health status	100.0	100.0	100.0

χ^2 (1,147) = 4.125, ***p* = .042**, Cramer's V = .168

WCF05: Frequency of telephone calls with relatives by distance of closest relative

			Distance of closest relative ('reconq1>1')		Total
			Within 100km	100km or further	
Frequency of telephone calls with relatives ('reco2eq4a')	Weekly or more often	Count	36	71	107
		% within distance of relative	87.8	67.6	73.3
	Less often	Count	5	34	39
		% within distance of relative	12.2	32.4	26.7
Total		Count	41	105	**146**
		% within distance of relative	100.0	100.0	100.0

χ^2 (1,146) = 6.137, ***p* = .013**, Cramer's V = .205

WCF06: Frequency of ICT use by distance of closest relative

			Distance of closest relative ('reconq1' >1)		Total
			Within 100km	100km or further	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	27	52	79
		% within distance of relative	69.2	49.5	54.9
	Less often or never	Count	12	53	65
		% within distance of relative	30.8	50.5	45.1
Total		Count	39	105	**144**
		% within distance of relative	100.0	100.0	100.0

χ^2 (1,144) = 4.460, ***p* = .035**, Cramer's V = .176

WCF07: Frequency of telephone calls with relatives by frequency of face-to-face contact with

			Frequency of face-to-face contact ('reco3nq4')		Total
			Monthly or more often	Less often	
Frequency of telephone calls with relatives ('reco2eq4a')	Weekly or more often	Count	51	57	108
		% within face-to-face contact	92.7	62.0	73.5
	Less often	Count	4	35	39
		% within face-to-face contact	7.3	38.0	26.5
Total		Count	55	92	**147**
		% within face-to-face contact	100.0	100.0	100.0

χ^2 (1,147) = 16.721, ***p* < .001**, Cramer's V = .337

relatives

WCF08: Frequency of ICT use with relatives by frequency of face-to-face contact with relatives

			Frequency of face-to-face contact ('reco3nq4')		Total
			Monthly or more often	Less often	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	40	39	79
		% within face-to-face contact	**75.5**	42.4	54.9
	Less often or never	Count	13	53	66
		% within face-to-face contact	24.5	57.6	45.1
Total		Count	53	92	**145**
		% within face-to-face contact	100.0	100.0	100.0

χ^2 (1,145) = 14.839, ***p* < .001**, Cramer's V = .320

WCF09: Frequency of telephone calls with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of telephone calls with relatives ('reco2eq4a')	Weekly or more often	Count	83	25	108
		% within health status	71.6	80.6	73.5
	Less often	Count	33	6	39
		% within health status	28.4	19.4	26.5
Total		Count	116	31	**147**
		% within health status	100.0	100.0	100.0

χ^2 (1,147) =1.038, p = .308

WCF10: Frequency of ICT use with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	62	17	79
		% within health status	53.4	58.6	54.5
	Less often or never	Count	54	12	66
		% within health status	46.6	41.4	45.5
Total		Count	116	29	**145**
		% within health status	100.0	100.0	100.0

χ^2 (1,145) = 0.250, p = .617

WCF11: Frequency of face-to-face contact with friends by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency face-to-face contact with friends ('reconq5')	Few times a week	Count	68	11	79
		% within health status	58.6	35.5	53.7
	Weekly or less often	Count	48	20	68
		% within health status	41.4	64.5	46.3
Total		Count	116	31	**147**
		% within health status	100.0	100.0	100.0

χ^2 (1,147) = 5.268, ***p* = .022**, Cramer's V = .189

WCF12: Frequency of telephone calls with friends by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	90	25	115
		% within health status	77.6	80.6	78.2
	Less often or never	Count	26	6	32
		% within health status	22.4	19.4	21.8
Total		Count	116	31	**147**
		% within health status	100.0	100.0	100.0

χ^2 (1,147) = 0.134, p = .714

WCF13: Frequency of ICT use with friends by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of ICT use with friends ('recoeq5b')	Weekly or more often	Count	57	14	71
		% within health status	50.0	46.7	49.3
	Less often or never	Count	57	16	73
		% within health status	50.0	53.3	50.7
Total		Count	114	30	**144**
		% within health status	100.0	100.0	100.0

χ^2 (1,144) = 0.106, p = .745

WCF14: Frequency of ICT use with friends by age group

			Age group ('recoage2')		Total
			65-74 yrs	75 yrs +	
Frequency of ICT use with friends ('recoeq5b')	Weekly or more often	Count	48	23	71
		% within age group	59.3	36.5	49.3
	Less often or never	Count	33	40	73
		% within age group	40.7	63.5	50.7
Total		Count	81	63	**144**
		% within age group	100.0	100.0	100.0

χ^2 (1,144) = 7.339, ***p* = .007**, Cramer's V = .226

WCF15: Attendance of religious services and events by age group

			Age group ('recoage2')		Total
			65-74 yrs	75 yrs +	
Attendance at religious services and events ('reco2nq7')	Yes, regularly	Count	14	23	37
		% within age group	17.1	35.4	25.2
	Occasionally or no	Count	68	42	110
		% within age group	82.9	64.6	74.8
Total		Count	82	65	**147**
		% within age group	100.0	100.0	100.0

χ^2 (1,147) = 6.455, ***p* = .011**, Cramer's V = .210

WCF16: Involvement in social groups and community activities by age group

			Age group ('recoage2')		Total
			65-74 yrs	75 yrs +	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	64	52	116
		% within age group	78.0	80.0	78.9
	Occasionally or no	Count	18	13	31
		% within age group	22.0	20.0	21.1
Total		Count	82	65	**147**
		% within age group	100.0	100.0	100.0

χ^2 (1,147) = 0.083, p = .773

WCF17: Involvement in social groups and community activities by gender

			Gender ('gender')		Total
			Female	Male	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	73	43	116
		% within gender	81.1	75.4	78.9
	Occasionally or no	Count	17	14	31
		% within gender	18.9	24.6	21.1
Total		Count	90	57	**147**
		% within gender	100.0	100.0	100.0

χ^2 (1,147) = 0.675, p = .411

WCF18: Involvement in social groups and community activities by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	95	21	116
		% within health status	81.9	67.7	78.9
	Occasionally or no	Count	21	10	31
		% within health status	18.1	32.3	21.1
Total		Count	116	31	**147**
		% within health status	100.0	100.0	100.0

χ^2 (1,147) = 2.945, p = .086

WCF19: Involvement in social groups and community activities by living arrangements

			Living arrangements ('living')		Total
			Lives alone	Lives with others	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	48	59	107
		% within living arrangements	84.2	75.6	79.3
	Occasionally or no	Count	9	19	28
		% within living arrangements	15.8	24.4	20.7
Total		Count	57	78	**135**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,135) = 1.471, p = .225

WCF20: Involvement in social groups and community activities by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	34	45	37	116
		% within size of town	75.6	78.9	84.1	79.5
	Occasionally or no	Count	11	12	7	30
		% within size of town	24.4	21.1	15.9	20.5
Total		Count	45	57	44	**146**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,146) = 1.007, p = .604

WCF21: Involvement in social groups and community activities by length of residency

			Length of residency ('codearea2')			Total
			0-10 yrs	11-29 yrs	30 yrs +	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	32	51	33	116
		% within length of residency	64.0	86.4	86.8	78.9
	Occasionally or no	Count	18	8	5	31
		% within length of residency	36.0	13.6	13.2	21.1
Total		Count	45	57	44	**147**
		% within length of residency	100.0	100.0	100.0	100.0

χ^2 (2,147) = 10.127, ***p* = .006**, Cramer's V = .262

WCF22: Involvement in social groups and community activities by marital status

			Marital status ('remarital')			Total
			Married	Widowed	Not or never married	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	62	34	20	116
		% within marital status	72.9	94.4	76.9	78.9
	Occasionally or no	Count	23	2	6	31
		% within marital status	27.1	5.6	23.1	21.1
Total		Count	85	36	26	**147**
		% within marital status	100.0	100.0	100.0	100.0

χ^2 (2,147) = 7.102, ***p* = .029**, Cramer's V = .220

WCF23: Living arrangements by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Living arrangements ('living')	Live alone	Count	15	31	11	57
		% within size of town	35.7	58.5	28.2	42.5
	Live with others	Count	27	22	28	77
		% within size of town	64.3	41.5	71.8	57.5
Total		Count	42	53	39	**134**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,134) = 9.596, ***p* = .008**, Cramer's V = .268

WCF24: Frequency of contact with neighbours by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Frequency of contact with neighbours ('reconq6')	Weekly or more often	Count	32	40	32	104
		% within size of town	72.7	70.2	72.7	71.7
	Less often	Count	12	17	12	41
		% within size of town	27.3	29.8	27.3	28.3
Total		Count	44	57	44	**145**
		% within size of town	100.0	100.0	100.0	100.0

χ^2 (2,145) = 0.111, *p* = .946

WCF25: Frequency of contact with neighbours by living arrangements

			Living arrangements ('living')		Total
			Lives alone	Lives with others	
Frequency of contact with neighbours ('reconq6')	Weekly or more often	Count	40	57	97
		% within living arrangements	70.2	74.0	72.4
	Less often	Count	17	20	37
		% within living arrangements	29.8	26.0	27.6
Total		Count	57	77	**134**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,134) = 0.243, p = .622

WCF26: Frequency of contact with neighbours by age group

			Age group ('reecoage2')		Total
			65-74 yrs	75 yrs +	
Frequency of contact with neighbours ('reconq6')	Weekly or more often	Count	55	49	104
		% within age group	67.9	75.4	71.2
	Less often	Count	26	16	42
		% within age group	32.1	24.6	28.8
Total		Count	81	65	**146**
		% within age group	100.0	100.0	100.0

χ^2 (1,146) = 0.986, p = .321

WCF27: Frequency of contact with neighbours by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of contact with neighbours ('reconq6')	Weekly or more often	Count	63	41	104
		% within gender	70.8	71.9	71.2
	Less often	Count	26	16	42
		% within gender	29.2	28.1	28.8
Total		Count	89	57	**146**
		% within gender	100.0	100.0	100.0

χ^2 (1,146) = 0.022, p = .882

WCF28: Frequency of contact with neighbours by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with neighbours ('reconq6')	Weekly or more often	Count	82	22	104
		% within health status	71.3	71.0	71.2
	Less often	Count	33	9	42
		% within health status	28.7	29.0	28.8
Total		Count	115	31	**146**
		% within health status	100.0	100.0	100.0

χ^2 (1,146) = 0.001, p = .971

Appendix 21: Private Restricted Support Network Frequencies

Distance (km)	< 2	3-10	11-20	21-100	> 100	None	N
To closest relative	5 (6%)	3 (4%)	1 (1%)	4 (5%)	67 (82%)	2 (2%)	82 (100%)
To closest child	3 (4%)	1 (1%)	1 (1%)	2 (2%)	67 (82%)	8 (10%)	82 (100%)
To closest sibling	1 (1%)	0 (0%)	0 (0%)	1 (1%)	58 (72%)	21 (26%)	81 (100%)

Frequency of contact	Daily	2-3 / week	Weekly	Monthly	Less often	No contact	N
Relatives - in person	0 (0%)	1 (1%)	4 (5%)	6 (8%)	65 (80%)	5 (6%)	82 (100%)
Relatives - by phone	3 (4%)	11 (13%)	32 (39%)	23 (28%)	9 (11%)	4 (5%)	82 (100%)
Relatives - by ICT	4 (5%)	14 (17%)	16 (19%)	15 (18%)	12 (15%)	21 (26%)	82 (100%)
Friends - in person	10 (12%)	10 (12%)	30 (37%)	19 (23%)	4 (5%)	9 (11%)	82 (100%)
Friends - by phone	4 (5%)	9 (11%)	33 (40%)	22 (27%)	10 (12%)	4 (5%)	82 (100%)
Friends - by ICT	3 (4%)	7 (9%)	15 (19%)	17 (22%)	15 (19%)	21 (27%)	78 (100%)
Neighbours - in person	8 (10%)	10 (12%)	15 (18%)	9 (11%)	25 (31%)	15 (18%)	82 (100%)

Frequency of attendance	Yes, regularly	Yes, occasionally	No	N
Religious services/events	4 (5%)	0 (0%)	78 (95%)	82 (100%)
Social groups/activities	18 (22%)	8 (10%)	54 (68%)	80 (100%)

Appendix 22: Private Restricted Support Network Chi-Square Tests

PR01: Length of residency by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Length of residency ('codearea3')	Less than 25 years	Count	10	28	23	61
		% within size of town	71.4	84.8	69.7	76.3
	25 years or more	Count	4	5	10	19
		% within size of town	28.6	15.2	30.3	23.8
Total		Count	14	33	33	**80**
		% within size of town	100.0	100.0	100.0	100.0
χ^2 (2,80) = 2.309, p = .315						

PR02: Length of residency by age group

			Age group ('recoage2')		Total
			Female	**Male**	
Length of residency ('codearea3')	Less than 25 years	Count	43	18	61
		% within age group	81.1	62.1	74.4
	25 years or more	Count	10	11	21
		% within age group	18.9	37.9	25.6
Total		Count	53	29	**82**
		% within age group	100.0	100.0	100.0
χ^2 (1,82) = 3.575, p = .0.059					

PR03: Length of residency by marital status

			Marital status ('remarital2')		Total
			Married	**Widowed, not married and never married**	
Length of residency ('codearea3')	Less than 25 years	Count	36	24	60
		% within marital status	75.0	72.7	74.1
	25 years or more	Count	12	9	21
		% within marital status	25.0	27.3	25.9
Total		Count	48	33	**81**
		% within marital status	100.0	100.0	100.0
χ^2 (1,81) = 0.053, p = .819					

PR04: Marital status by gender

			Gender ('gender')		Total
			Female	**Male**	
Marital status	Married	Count	19	28	47
		% within gender	52.8	63.6	58.8
	Widowed	Count	12	5	17
		% within gender	33.3	11.4	21.3
	Not married and never married	Count	5	11	16
		% within gender	13.9	25.0	20.0
Total		Count	36	44	**80**
		% within gender	100.0	100.0	100.0
χ^2 (2,80) = 6.117, ***p* = .047**, Cramer's V = .227					

PR05: Living arrangements by gender

			Gender ('gender')		Total
			Female	Male	
Living arrangements ('living')	Live alone	Count	15	16	31
		% within gender	40.5	38.1	39.2
	Live with others	Count	22	26	48
		% within gender	59.5	61.9	60.8
Total		Count	37	42	**79**
		% within gender	100.0	100.0	100.0
χ^2 (1,79) = 0.049, p = .824					

PR06: Involvement in social groups and community activities by marital status

			Marital status ('remarital2')		Total
			Married	Widowed, not married and never married	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	8	10	18
		% within marital status	17.4	30.3	22.8
	Occasionally or no	Count	38	23	61
		% within marital status	82.6	69.7	77.2
Total		Count	46	33	**79**
		% within marital status	100.0	100.0	100.0
χ^2 (1,79) = 1.821, p = .177					

PR07: Involvement in social groups and community activities by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	4	9	5	18
		% within size of town	28.6	29.0	15.2	23.1
	Occasionally or no	Count	10	22	28	60
		% within size of town	71.4	71.0	84.8	76.9
Total		Count	14	31	33	**78**
		% within size of town	100.0	100.0	100.0	100.0
χ^2 (2,78) = 2.025, p = .363						

PR08: Involvement in social groups and community activities by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	8	10	18
		% within living arrangements	26.7	21.3	23.4
	Occasionally or no	Count	22	37	59
		% within living arrangements	73.3	78.7	76.6
Total		Count	30	47	**77**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,77) = 0.297, p = .586					

PR09: Involvement in social groups and community activities by length of residency

			Length of residency ('codearea3')		Total
			Less than 25 yrs	25 years or more	
Social groups and community activities ('reconq8')	Yes	Count	16	10	26
		% within length of residency	27.1	47.6	32.5
	No	Count	43	11	54
		% within length of residency	72.9	52.4	67.5
Total		Count	59	21	**80**
		% within length of residency	100.0	100.0	100.0
χ^2 (1,80) = 2.967, p = .085					

PR10: Involvement in social groups and community activities by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	12	5	17
		% within health status	22.2	20.0	21.5
	Occasionally or no	Count	42	20	62
		% within health status	77.8	80.0	78.5
Total		Count	54	25	**79**
		% within health status	100.0	100.0	100.0
χ^2 (1,79) = 0.050, p = .823					

PR11: Involvement in social groups and community activities by gender

			Gender ('gender')		Total
			Female	Male	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	13	5	18
		% within gender	35.1	11.9	22.8
	Occasionally or no	Count	24	37	61
		% within gender	64.9	88.1	77.2
Total		Count	37	42	**79**
		% within gender	100.0	100.0	100.0
χ^2 (1,79) = 6.034, ***p* = .014**, Cramer's V = .276					

PR12: Frequency of contact with neighbours by gender 1/2

			Gender ('gender')		Total
			Female	Male	
Frequency of contact with neighbours ('reco3nq6')	Weekly or more often	Count	10	23	33
		% within gender	27.0	52.3	40.7
	Less often	Count	27	21	48
		% within gender	73.0	47.7	59.3
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 5.306, ***p* = .021**, Cramer's V = .256					

PR13: Frequency of contact with neighbours by gender 2/2

			Gender ('gender')		Total
			Female	**Male**	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	12	30	42
		% within gender	32.4	68.2	51.9
	Less often	Count	25	14	39
		% within gender	67.6	31.8	48.1
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 10.289, ***p* = .001**, Cramer's V = .356					

PR14: Frequency of contact with friends by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of contact with friends ('reconq5')	Few times a week	Count	5	15	20
		% within gender	13.5	34.1	24.7
	Weekly or less often	Count	32	29	61
		% within gender	86.5	65.9	75.3
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 4.577, ***p* = .032**, Cramer's V = .238					

PR15: Frequency of telephone calls with friends by gender 1/2

			Gender ('gender')		Total
			Female	**Male**	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	22	23	45
		% within gender	59.5	52.3	55.6
	Less often or never	Count	15	21	36
		% within gender	40.5	47.7	44.4
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 0.420, *p* = .517					

PR16: Frequency of telephone calls with friends by gender 2/2

			Gender ('gender')		Total
			Female	**Male**	
Frequency of telephone calls with friends ('recoeq5a')	Few times a week or daily	Count	5	8	13
		% within gender	13.5	18.2	16.0
	Weekly or less often	Count	32	36	68
		% within gender	86.5	81.8	84.0
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 0.325, *p* = .569					

PR17: Frequency of ICT use with friends by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of ICT use with friends ('recoeq5b')	Weekly or more often	Count	12	13	25
		% within gender	33.3	31.7	32.5
	Less often or never	Count	24	28	52
		% within gender	66.7	68.3	67.5
Total		Count	36	41	**77**
		% within gender	100.0	100.0	100.0
χ^2 (1,77) = 0.023, p = .879					

PR18: Frequency of telephone calls with relatives by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of telephone calls with relatives ('reco2eq4a')	Weekly or more often	Count	23	23	46
		% within gender	62.2	52.3	56.8
	Less often	Count	14	21	35
		% within gender	37.8	47.7	43.2
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 0.801, p = .371					

PR19: Frequency of ICT use with relatives by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	21	13	34
		% within gender	56.8	29.5	42.0
	Less often or never	Count	16	31	47
		% within gender	43.2	70.5	58.0
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 6.110, ***p* = .013**, Cramer's V = .275					

PR20: Distance of closest relative s by gender

			Distance from closest relative ('reconq1>1')		Total
			Within 100km	**100km or further**	
Frequency of telephone calls with relatives ('reco2eq4a')	Weekly or more often	Count	6	40	46
		% within distance of relative	46.2	59.7	57.5
	Less often	Count	7	27	34
		% within distance of relative	53.8	40.3	42.5
Total		Count	13	67	**80**
		% within distance of relative	100.0	100.0	100.0
χ^2 (1,80) = 0.818, p = .366					

PR21: Frequency of ICT use with relatives by gender

			Distance from closest relative ('reconq1>1')		Total
			Within 100km	100km or further	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	4	30	34
		% within distance of relative	30.8	44.8	42.5
	Less often or never	Count	9	37	46
		% within distance of relative	69.2	55.2	57.5
Total		Count	13	67	**80**
		% within distance of relative	100.0	100.0	100.0
χ^2 (1,80) = 0.874, p = .350					

PR22: Distance to closest relative by gender

			Gender ('gender')		Total
			Female	Male	
Distance to closest relative ('reconq1>1')	Within 100km	Count	5	8	13
		% within gender	13.9	18.6	16.5
	100km or further	Count	31	35	66
		% within gender	86.1	81.4	83.5
Total		Count	36	43	**79**
		% within gender	100.0	100.0	100.0
χ^2 (1,79) = 0.317, p = .573					

PR23: Length of residency by gender

			Gender ('gender')		Total
			Female	Male	
Length of residency ('codearea3')	Less than 25 years	Count	31	30	61
		% within gender	83.8	68.2	75.3
	25 years or more	Count	6	14	20
		% within gender	16.2	31.8	24.7
Total		Count	37	44	**81**
		% within gender	100.0	100.0	100.0
χ^2 (1,81) = 2.631, p = .105					

PR24: Length of residency by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Length of residency ('codearea3')	Less than 25 years	Count	23	37	60
		% within living arrangements	74.2	77.1	75.9
	25 years or more	Count	8	11	19
		% within living arrangements	25.8	22.9	34.1
Total		Count	31	48	**79**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,79) = 0.086, p = .769					

PR25: Length of residency by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Length of residency ('codearea3')	Less than 25 years	Count	42	18	60
		% within health status	76.4	69.2	74.1
	25 years or more	Count	13	8	21
		% within health status	23.6	30.8	25.9
Total		Count	55	26	**81**
		% within health status	100.0	100.0	100.0

χ^2 (1,81) = 0.468, p = .494

Appendix 23: Locally Integrated Support Network Data

Distance (km)	< 2	3-10	11-20	21-100	> 100	None	N
To closest relative	28 (41%)	30 (44%)	10 (14%)	1 (1%)	0 (0%)	0 (0%)	69 (100%)
To closest child	26 (38%)	25 (37%)	11 (16%)	2 (3%)	3 (5%)	1 (1%)	68 (100%)
To closest sibling	5 (7%)	11 (16%)	5 (7%)	9 (13%)	33 (48%)	6 (9%)	69 (100%)

Frequency of contact	Daily	2-3 / week	Weekly	Monthly	Less often	No contact	N
Relatives - in person	17 (25%)	29 (42%)	20 (29%)	2 (3%)	1 (1%)	0 (0%)	69 (100%)
Relatives - by phone	22 (32%)	23 (33%)	19 (28%)	5 (7%)	0 (0%)	0 (0%)	69 (100%)
Relatives - by ICT	9 (14%)	13 (20%)	20 (31%)	4 (6%)	5 (8%)	14 (21%)	65 (100%)
Friends - in person	6 (9%)	28 (41%)	32 (46%)	3 (4%)	0 (0%)	0 (0%)	69 (100%)
Friends - by phone	9 (13%)	12 (17%)	34 (50%)	9 (13%)	5 (7%)	0 (0%)	69 (100%)
Friends - by ICT	4 (6%)	7 (11%)	18 (28%)	11 (17%)	9 (14%)	15 (24%)	64 (100%)
Neighbours - in person	13 (19%)	30 (43%)	22 (32%)	2 (3%)	2 (3%)	0 (0%)	69 (100%)

Frequency of attendance	Yes, regularly	Yes, occasionally	No	N
Religious services/events	27 (39%)	2 (3%)	40 (58%)	69 (100%)
Social groups/activities	57 (83%)	3 (4%)	9 (13%)	69 (100%)

Appendix 24: Locally Integrated Support Network Chi-Square Tests

LI01: Involvement in social groups and community activities by marital status

			Marital status ('remarital2')		Total
			Married	Widowed, not married and never married	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	29	27	56
		% within marital status	80.6	84.4	82.4
	Occasionally or no	Count	7	5	12
		% within marital status	19.4	15.6	17.6
Total		Count	36	32	**68**
		% within marital status	100.0	100.0	100.0
χ^2 (1,68) = 0.170, p = .680					

LI02: Involvement in social groups and community activities by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	25	28	53
		% within living arrangements	83.3	80.0	81.5
	Occasionally or no	Count	5	7	12
		% within living arrangements	16.7	20.0	18.5
Total		Count	30	35	**65**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,65) = 0.119, p = .730					

LI03: Involvement in social groups and community activities by length of residency

			Length of residency ('codearea3')		Total
			Less than 25 yrs	25 years or more	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	28	27	55
		% within length of residency	87.5	77.1	82.1
	Occasionally or no	Count	4	8	12
		% within length of residency	12.5	22.9	17.9
Total		Count	32	35	**67**
		% within length of residency	100.0	100.0	100.0
χ^2 (1,67) = 1.220, p = .269					

LI04: Attendance at religious services and events by marital status

			Marital status ('remarital2')		Total
			Married	Widowed, not married and never married	
Attendance at religious services and events ('reco2nq7')	Yes, regularly	Count	12	15	27
		% within marital status	33.3	46.9	39.7
	Occasionally or no	Count	24	17	41
		% within marital status	66.7	53.1	60.3
Total		Count	36	32	**68**
		% within marital status	100.0	100.0	100.0
χ^2 (1,68) = 1.298, p = .255					

LI05: Attendance at religious services and events by living arrangements

			Living arrangements ('living')		Total
			Live alone	**Live with others**	
Attendance at religious services and events ('reco2nq7')	Yes, regularly	Count	14	13	27
		% within living arrangements	46.7	37.1	41.5
	Occasionally or no	Count	16	22	38
		% within living arrangements	53.3	62.9	58.5
Total		Count	30	35	**65**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,65) = 0.603, p = .437					

LI06: Attendance at religious services and events by length of residency

			Length of residency ('codearea3')		Total
			Less than 25 yrs	**25 years or more**	
Attendance at religious services and events ('reco2nq7')	Yes, regularly	Count	14	13	27
		% within length of residency	43.8	37.1	40.3
	Occasionally or no	Count	18	22	40
		% within length of residency	56.3	62.9	59.7
Total		Count	32	35	**67**
		% within length of residency	100.0	100.0	100.0
χ^2 (1,67) = 0.303, p = .582					

LI07: Size of town by age

			Age group ('recoage2')		Total
			65-74 yrs	**75 yrs +**	
Size of town ('sizetown')	Large	Count	6	21	27
		% within age group	24.0	47.7.	39.1
	Medium	Count	11	14	25
		% within age group	44.0	31.8	36.2
	Small	Count	8	9	17
		% within age group	32.0	20.5	24.6
Total		Count	25	44	**69**
		% within age group	100.0	100.0	100.0
χ^2 (2,69) = 3.809, p = .149					

LI08: Length of residency by gender

			Gender ('gender')		Total
			Female	**Male**	
Length of residency ('codearea3')	Less than 25 years	Count	19	13	32
		% within gender	45.2	52.0	47.8
	25 years or more	Count	23	12	35
		% within gender	54.8	48.0	52.2
Total		Count	42	25	**67**
		% within gender	100.0	100.0	100.0
χ^2 (1,67) = 0.287, p = .592					

LI09: Length of residency by marital status

			Marital status ('remarital2')		Total
			Married	Widowed, not married and never married	
Length of residency ('codearea3')	Less than 25 years	Count	17	15	32
		% within marital status	48.6	48.4	48.5
	25 years or more	Count	18	16	34
		% within marital status	51.4	51.6	51.5
Total		Count	35	31	**66**
		% within marital status	100.0	100.0	100.0

χ^2 (1,66) = 0.000, p = .998

LI10: Length of residency by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Length of residency ('codearea3')	Less than 25 years	Count	22	10	32
		% within health status	46.8	52.6	48.5
	25 years or more	Count	25	9	34
		% within health status	53.2	47.4	51.5
Total		Count	47	19	**66**
		% within health status	100.0	100.0	100.0

χ^2 (1,66) = 0.184, p = .668

LI11: Length of residency by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Length of residency ('codearea3')	Less than 25 years	Count	14	18	32
		% within living arrangements	48.3	52.9	50.8
	25 years or more	Count	15	16	31
		% within living arrangements	51.7	47.1	49.2
Total		Count	29	34	**63**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,63) = 0.136, p = .712

LI12: Frequency of contact with neighbours by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of contact with neighbours ('reco4nq6')	Few times a week or daily	Count	22	21	43
		% within gender	51.2	60.8	62.3
	Weekly or less often	Count	21	5	26
		% within gender	48.8	19.2	37.7
Total		Count	43	26	**69**
		% within gender	100.0	100.0	100.0

χ^2 (1,69) = 6.048, ***p* = .014**, Cramer's V = .296

LI13: Frequency of contact with friends by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of contact with friends ('reconq5')	Few times a week or daily	Count	20	14	34
		% within gender	46.5	53.8	49.3
	Weekly or less often	Count	23	12	35
		% within gender	53.5	46.2	50.7
Total		Count	43	26	**69**
		% within gender	100.0	100.0	100.0
χ^2 (1,69) = 0.349, p = .555					

LI14: Frequency of contact with neighbours by age

			Age group ('recoage2')		Total
			65-74 yrs	**75 yrs +**	
Frequency of contact with neighbours ('reco4nq6)	Few times a week or daily	Count	14	29	43
		% within age group	56.0	65.9	62.3
	Weekly or less often	Count	11	15	26
		% within age group	44.0	34.1	37.7
Total		Count	25	44	**69**
		% within age group	100.0	100.0	100.0
χ^2 (1,69) = 0.667, p = .414					

LI15: Frequency of contact with friends by age

			Age group ('recoage2')		Total
			65-74 yrs	**75 yrs +**	
Frequency of contact with friends ('reconq5')	Few times a week or daily	Count	15	19	34
		% within age group	60.0	43.2	49.3
	Weekly or less often	Count	10	25	35
		% within age group	40.0	56.8	50.7
Total		Count	25	44	**69**
		% within age group	100.0	100.0	100.0
χ^2 (1,69) = 1.804, p = .179					

LI16: Frequency of contact with neighbours by marital status

			Marital status ('remarital2')		Total
			Married	**Widowed, not married and never married**	
Frequency of contact with neighbours ('reco4nq6)	Few times a week or daily	Count	23	19	42
		% within marital status	63.9	69.4	61.9
	Weekly or less often	Count	13	13	26
		% within marital status	36.1	40.6	38.2
Total		Count	36	32	**68**
		% within marital status	100.0	100.0	100.0
χ^2 (1,68) = 0.146, p = .702					

LI17: Frequency of contact with friends by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of contact with friends ('reconq5')	Few times a week or daily	Count	15	18	33
		% within marital status	41.7	56.3	48.5
	Weekly or less often	Count	21	14	35
		% within marital status	58.3	43.8	51.5
Total		Count	36	32	**68**
		% within marital status	100.0	100.0	100.0
χ^2 (1,68) = 1.442, p = .230					

LI18: Frequency of contact with neighbours by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with neighbours ('reco4nq6)	Few times a week or daily	Count	28	14	42
		% within health status	59.6	66.7	61.9
	Weekly or less often	Count	19	7	26
		% within health status	40.4	33.3	38.2
Total		Count	47	21	**68**
		% within health status	100.0	100.0	100.0
χ^2 (1,68) = 0.309, p = .578					

LI19: Frequency of contact with friends by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with friends ('reconq5')	Few times a week or daily	Count	23	10	33
		% within health status	48.9	47.6	48.5
	Weekly or less often	Count	24	11	35
		% within health status	51.1	52.4	51.5
Total		Count	47	21	**68**
		% within health status	100.0	100.0	100.0
χ^2 (1,68) = 0.010, p = .920					

LI20: Frequency of contact with neighbours by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of contact with neighbours ('reco4nq6)	Few times a week or daily	Count	18	22	40
		% within living arrangements	60.0	62.9	61.5
	Weekly or less often	Count	12	13	25
		% within living arrangements	40.0	37.1	38.5
Total		Count	30	35	**65**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,65) = 0.056, p = .813					

LI21: Frequency of contact with friends by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of contact with friends ('reconq5')	Few times a week or daily	Count	17	15	32
		% within living arrangements	56.7	42.9	49.2
	Weekly or less often	Count	13	20	33
		% within living arrangements	43.3	57.1	50.8
Total		Count	30	35	**65**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,65) = 1.233, p = .267					

LI22: Frequency of contact with relatives by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of contact with relatives ('reco4nq4')	Few times a week or daily	Count	21	23	44
		% within living arrangements	70.0	65.7	67.7
	Weekly or less often	Count	9	12	21
		% within living arrangements	30.0	34.3	32.3
Total		Count	30	35	**65**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,65) = 0.136, p = .713					

LI23: Frequency of contact with relatives by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of contact with relatives ('reco4nq4')	Few times a week or daily	Count	23	23	46
		% within marital status	63.9	71.9	67.6
	Weekly or less often	Count	13	9	22
		% within marital status	36.1	28.1	32.4
Total		Count	36	32	**68**
		% within marital status	100.0	100.0	100.0
χ^2 (1,68) = 0.494, p = .482					

LI24: Frequency of contact with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with relatives ('reco4nq4')	Few times a week or daily	Count	35	11	46
		% within health status	74.5	52.4	67.6
	Weekly or less often	Count	12	10	22
		% within health status	25.5	47.6	32.4
Total		Count	47	21	**68**
		% within health status	100.0	100.0	100.0
χ^2 (1,68) = 3.235, p = .072					

LI25: Frequency of contact with relatives by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Frequency of contact with relatives ('reco4nq4')	Few times a week or daily	Count	20	16	7	43
		% within size of town	74.1	64.0	41.2	62.3
	Weekly or less often	Count	7	9	10	26
		% within size of town	25.9	36.0	58.8	37.7
Total		Count	27	25	17	**69**
		% within size of town	100.0	100.0	100.0	100.0
χ^2 (2,69) = 4.855, p = .088						

LI26: Frequency of telephone calls with relatives by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	30	15	45
		% within gender	69.8	57.7	65.2
	Weekly or less often	Count	13	11	24
		% within gender	30.2	42.3	34.8
Total		Count	43	26	**69**
		% within gender	100.0	100.0	100.0
χ^2 (1,69) = 1.041, p = .307					

LI27: Frequency of ICT use with relatives by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	29	13	42
		% within gender	70.7	54.2	64.6
	Less often or never	Count	12	11	23
		% within gender	29.3	45.8	35.4
Total		Count	41	24	**65**
		% within gender	100.0	100.0	100.0
χ^2 (1,65) = 1.817, p = .178					

LI28: Frequency of telephone calls with relatives by age

			Age group ('recoage2')		Total
			65-74 yrs	**75 yrs +**	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	19	26	45
		% within age group	76.0	59.1	65.2
	Weekly or less often	Count	6	18	24
		% within age group	24.0	40.9	34.8
Total		Count	25	44	**69**
		% within age group	100.0	100.0	100.0
χ^2 (1,69) = 2.009, p = .156					

LI29: Frequency of ICT use with relatives by age

			Age group ('recoage2')		Total
			65-74 yrs	75 yrs +	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	15	27	42
		% within age group	62.5	65.9	64.6
	Less often or never	Count	9	14	23
		% within age group	37.5	34.1	35.4
Total		Count	24	41	**65**
		% within age group	100.0	100.0	100.0
χ^2 (1,65) = 0.074, p = .785					

LI30: Frequency of telephone calls with relatives by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	24	20	44
		% within marital status	66.7	62.5	64.7
	Weekly or less often	Count	12	12	24
		% within marital status	33.3	37.5	35.2
Total		Count	36	32	**68**
		% within marital status	100.0	100.0	100.0
χ^2 (1,68) = 0.129, p = .720					

LI31: Frequency of ICT use with relatives by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	26	16	42
		% within marital status	74.3	53.3	64.6
	Less often or never	Count	9	14	23
		% within marital status	25.7	46.7	35.4
Total		Count	35	30	**65**
		% within marital status	100.0	100.0	100.0
χ^2 (1,65) = 3.102, p = .078					

LI32: Frequency of telephone calls with relatives by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	19	24	43
		% within living arrangements	63.3	68.6	66.2
	Weekly or less often	Count	11	11	22
		% within living arrangements	36.7	31.4	33.8
Total		Count	30	35	**65**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,65) = 0.198, p = .656					

LI33: Frequency of ICT use with relatives by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	15	25	40
		% within living arrangements	53.6	75.8	65.6
	Less often or never	Count	13	8	21
		% within living arrangements	46.4	24.2	34.4
Total		Count	28	33	**61**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,61) = 3.303, p = .069					

LI34: Frequency of telephone calls with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	34	11	45
		% within health status	72.3	52.4	66.2
	Weekly or less often	Count	13	10	23
		% within health status	27.7	47.6	33.8
Total		Count	47	21	**68**
		% within health status	100.0	100.0	100.0
χ^2 (1,68) = 2.583, p = .108					

LI35: Frequency of ICT use with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	31	11	42
		% within health status	67.4	61.1	65.6
	Less often or never	Count	15	7	22
		% within health status	32.6	38.9	34.4
Total		Count	46	18	**64**
		% within health status	100.0	100.0	100.0
χ^2 (1,64) = 0.226, p = .634					

Appendix 25: Local Self-Contained Support Network Data

Distance (km)	< 2	3-10	11-20	21-100	> 100	None	N
To closest relative	2 (5%)	7 (17%)	19 (46%)	12 (29%)	1 (3%)	0 (0%)	41 (100%)
To closest child	1 (3%)	4 (10%)	16 (39%)	12 (29%)	5 (12%)	3 (7%)	41 (100%)
To closest sibling	2 (5%)	3 (7%)	4 (10%)	9 (23%)	17 (43%)	5 (12%)	40 (100%)

Frequency of contact	Daily	2-3 / week	Weekly	Monthly	Less often	No contact	N
Relatives - in person	1 (3%)	5 (12%)	20 (49%)	14 (34%)	1 (2%)	0 (0%)	41 (100%)
Relatives - by phone	8 (20%)	9 (22%)	16 (39%)	7 (17%)	1 (2%)	0 (0%)	41 (100%)
Relatives - by ICT	6 (15%)	7 (18%)	10 (25%)	8 (20%)	2 (5%)	7 (17%)	40 (100%)
Friends - in person	5 (12%)	8 (20%)	13 (32%)	12 (29%)	2 (5%)	1 (2%)	41 (100%)
Friends - by phone	5 (12%)	3 (7%)	17 (42%)	8 (20%)	7 (17%)	1 (2%)	41 (100%)
Friends - by ICT	1 (3%)	7 (17%)	8 (20%)	7 (18%)	5 (12%)	12 (30%)	40 (100%)
Neighbours - in person	2 (5%)	4 (10%)	15 (36%)	12 (29%)	6 (15%)	2 (5%)	41 (100%)

Frequency of attendance	Yes, regularly	Yes, occasionally	No	N
Religious services/events	1 (3%)	3 (7%)	37 (90%)	41 (100%)
Social groups/activities	12 (29%)	14 (34%)	15 (37%)	41 (100%)

Appendix 26: Local Self-Contained Support Network Chi-Square Tests

LSC01: Involvement in social groups and community activities by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Social groups and community activities ('reconq8')	Yes	Count	8	8	9	25
		% within size of town	57.1	72.7	60.0	62.5
	No	Count	6	3	6	15
		% within size of town	42.9	27.3	40.0	37.5
Total		Count	14	11	15	**40**
		% within size of town	100.0	100.0	100.0	100.0
χ^2 (2,40) = 0.702, p = .704						

LSC02: Involvement in social groups and community activities by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs and older	
Social groups and community activities ('reconq8')	Yes	Count	14	12	26
		% within age group	58.3	70.6	63.4
	No	Count	10	5	15
		% within age group	41.7	29.4	36.6
Total		Count	24	17	**41**
		% within age group	100.0	100.0	100.0
χ^2 (1,41) = 0.644, p = .422					

LSC03: Involvement in social groups and community activities by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Social groups and community activities ('reconq8')	Yes	Count	18	8	26
		% within health status	66.7	57.1	63.4
	No	Count	9	6	15
		% within health status	33.3	42.9	36.6
Total		Count	27	14	**41**
		% within health status	100.0	100.0	100.0
χ^2 (1,41) = 0.360, p = .548					

LSC04: Involvement in social groups and community activities by length of residency

			Length of residency ('codearea3')		Total
			Less than 25 yrs	25 years or more	
Social groups and community activities ('reconq8')	Yes	Count	14	12	26
		% within length of residency	60.9	66.7	63.4
	No	Count	9	6	15
		% within length of residency	39.1	33.3	36.6
Total		Count	23	18	**41**
		% within length of residency	100.0	100.0	100.0
χ^2 (1,41) = 0.146, p = .702					

LSC05: Involvement in social groups and community activities by gender

			Gender ('gender')		Total
			Female	Male	
Social groups and community activities ('reconq8')	Yes	Count	13	12	25
		% within gender	56.5	70.6	62.5
	No	Count	10	5	15
		% within gender	43.5	29.4	37.5
Total		Count	23	17	**40**
		% within gender	100.0	100.0	100.0
χ^2 (1,40) = 0.825, p = .364					

LSC06: Involvement in social groups and community activities by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Social groups and community activities ('reconq8')	Yes	Count	18	8	26
		% within marital status	72.0	50.0	63.4
	No	Count	7	8	15
		% within marital status	28.0	50.0	36.6
Total		Count	25	16	**41**
		% within marital status	100.0	100.0	100.0
χ^2 (1,41) = 2.035, p = .154					

LSC07: Involvement in social groups and community activities by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reco2nq8')	Yes	Count	9	14	23
		% within living arrangements	60.0	66.7	63.9
	No	Count	6	7	13
		% within living arrangements	40.0	33.3	36.1
Total		Count	15	21	**36**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,36) = 0.169, p = .681					

LSC08: Length of residency by gender

			Gender ('gender')		Total
			Female	Male	
Length of residency	Less than 25 years	Count	13	10	23
		% within gender	56.5	58.8	57.5
	25 years or more	Count	10	7	17
		% within gender	43.5	41.2	42.5
Total		Count	23	17	**40**
		% within gender	100.0	100.0	100.0
χ^2 (1,40) = 0.021, p = .884					

LSC09: Length of residency by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Length of residency	Less than 25 years	Count	15	8	23
		% within marital status	60.0	50.0	56.1
	25 years or more	Count	10	8	18
		% within marital status	40.0	50.0	43.9
Total		Count	25	16	**41**
		% within marital status	100.0	100.0	100.0
χ^2 (1,41) = 0.396, p = .529					

LSC10: Length of residency by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Length of residency	Less than 25 years	Count	8	7	7	22
		% within size of town	57.1	63.6	46.7	55.0
	25 years or more	Count	6	4	8	18
		% within size of town	42.9	36.4	53.3	45.0
Total		Count	14	11	15	**40**
		% within size of town	100.0	100.0	100.0	100.0
χ^2 (2,40) = 0.778, p = .678						

LSC11: Gender by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Gender	Female	Count	10	4	8	22
		% within size of town	71.4	36.4	57.1	56.4
	Male	Count	4	7	6	17
		% within size of town	28.6	63.6	42.9	43.6
Total		Count	14	11	14	**39**
		% within size of town	100.0	100.0	100.0	100.0
χ^2 (2,39) = 3.085, p = .214						

LSC12: Contact with neighbours by length of residency

			Length of residency ('codearea3')		Total
			< 25 yrs	25 years or more	
Contact with neighbours ('reco3nq6')	Weekly or more often	Count	12	9	21
		% within length of residency	52.2	50.0	51.2
	Less often	Count	11	9	20
		% within length of residency	47.8	50.0	48.8
Total		Count	23	18	**41**
		% within length of residency	100.0	100.0	**100.0**
χ^2 (1,41) = 0.019, p = .890					

LSC13: Contact with neighbours by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs and older	
Contact with neighbours ('reco3nq6')	Weekly or more often	Count	14	7	21
		% within age group	58.3	41.2	51.2
	Less often or never	Count	10	10	20
		% within age group	41.7	58.8	48.8
Total		Count	24	17	**41**
		% within age group	100.0	100.0	100.0

χ^2 (1,41) = 1.172, p = .279

LSC14: Contact with neighbours by gender

			Gender ('gender')		Total
			Female	Male	
Contact with neighbours ('reco3nq6')	Weekly or more often	Count	13	7	20
		% within gender	56.5	41.2	50.0
	Less often or never	Count	10	10	20
		% within gender	43.5	58.8	50.0
Total		Count	23	17	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 0.921, p = .337

LSC15: Contact with neighbours by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Contact with neighbours ('reco3nq6')	Weekly or more often	Count	15	6	21
		% within marital status	60.0	37.5	51.2
	Less often or never	Count	10	10	20
		% within marital status	40.0	62.5	48.8
Total		Count	25	16	**41**
		% within marital status	100.0	100.0	100.0

χ^2 (1,41) = 1.977, p = .160

LSC16: Contact with neighbours by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Contact with neighbours ('reco3nq6')	Weekly or more often	Count	6	12	18
		% within living arrangements	40.0	57.1	50.0
	Less often or never	Count	9	9	18
		% within living arrangements	60.0	42.9	50.0
Total		Count	15	21	**36**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,36) = 1.029, p = .310

LSC17: Contact with neighbours by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Contact with neighbours ('reco3nq6')	Weekly or more often	Count	16	5	21
		% within health status	59.3	35.7	51.2
	Less often or never	Count	11	9	20
		% within health status	40.7	64.3	48.8
Total		Count			**41**
		% within health status	100.0	100.0	100.0

χ^2 (1,41) = 2.046, p = .153

LSC18: Contact with friends by length of residency

			Length of residency ('codearea3')		Total
			< 25 yrs	25 years or more	
Contact with friends ('reco2nq5')	Weekly or more often	Count	13	13	26
		% within length of residency	56.5	72.2	63.4
	Less often or never	Count	10	5	15
		% within length of residency	43.5	27.8	36.6
Total		Count	23	18	**41**
		% within length of residency	100.0	100.0	100.0

χ^2 (1,41) = 1.073, p = .300

LSC19: Contact with friends by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs and older	
Contact with friends ('reco2nq5')	Weekly or more often	Count	18	8	26
		% within age group	75.0	47.1	63.4
	Less often or never	Count	6	9	15
		% within age group	25.0	52.9	36.6
Total		Count	24	17	**41**
		% within age group	100.0	100.0	100.0

χ^2 (1,41) = 3.349, p = .087

LSC20: Contact with friends by gender

			Gender ('gender')		Total
			Female	Male	
Contact with friends ('reco2nq5')	Weekly or more often	Count	15	10	25
		% within gender	65.2	58.8	62.5
	Less often or never	Count	8	7	15
		% within gender	34.8	41.2	37.5
Total		Count	23	17	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 0.171, p = .680

LSC21: Contact with friends by marital status

			Marital status ('remarital')		Total
			Married	**Widowed, not married and never married**	
Contact with friends ('reco2nq5')	Weekly or more often	Count	18	8	26
		% within marital status	72.0	50.0	63.4
	Less often or never	Count	7	8	15
		% within marital status	28.0	50.0	36.6
Total		Count	25	16	**41**
		% within marital status	100.0	100.0	100.0
χ^2 (1,41) = 2.035, p = .154					

LSC22: Contact with friends by living arrangements

			Living arrangements ('living')		Total
			Live alone	**Live with others**	
Contact with friends ('reco2nq5')	Weekly or more often	Count	8	14	22
		% within living arrangements	53.3	66.7	61.1
	Less often or never	Count	7	7	14
		% within living arrangements	46.7	33.3	38.9
Total		Count	15	21	**36**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,36) = 0.655, p = .418					

LSC23: Contact with friends by health status

			Health status ('rehealth')		Total
			Generally good	**Bit up and down or generally poor**	
Contact with friends ('reco2nq5')	Weekly or more often	Count	17	9	26
		% within health status	63.0	64.3	63.4
	Less often or never	Count	10	5	15
		% within health status	37.0	35.7	36.6
Total		Count	27	14	**41**
		% within health status	100.0	100.0	100.0
χ^2 (1,41) = 0.007, p = .934					

LSC24: Frequency of telephone calls with friends by age

			Age ('recoage2')		Total
			65-74 yrs	**75 yrs and older**	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	19	6	25
		% within age group	79.2	35.3	61.0
	Less often or never	Count	5	11	16
		% within age group	20.8	64.7	39.0
Total		Count	24	17	**41**
		% within age group	100.0	100.0	100.0
χ^2 (1,41) = 8.050, ***p* = .005**, Cramer's V = .443, Fisher's Exact Test p = .006					

LSC25: Frequency of ICT use with friends by age

			Age ('recoage2')		Total
			65-74 yrs	**75 yrs and older**	
Frequency of ICT use with friends ('recoeq5b')	Weekly or more often	Count	13	3	16
		% within age group	54.2	18.8	40.0
	Less often or never	Count	11	13	24
		% within age group	45.8	81.3	60.0
Total		Count	24	16	**40**
		% within age group	100.0	100.0	100.0

χ^2 (1,40) = 5.017, ***p* = .025**, Cramer's V = .354, Fisher's Exact Test p = .026

LSC26: Frequency of telephone calls with friends by length of residency

			Length of residency		Total
			Less than 25 yrs	**25 yrs or more**	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count % within length of residency	10 43.5	15 83.3	25 61.0
	Less often or never	Count % within length of residency	13 56.5	3 16.7	16 39.0
Total		Count % within length of residency	23 100.0	18 100.0	**41** 100.0

χ^2 (1,41) = 6.740, ***p* = .009**, Cramer's V = .405, Fisher's Exact Test p = .010

LSC27: Frequency of contact with relatives by age

			Age ('recoage2')		Total
			65-74 yrs	**75 yrs and older**	
Frequency of contact with relatives ('reco2nq4')	Weekly or more often	Count	12	14	26
		% within age group	50.0	82.4	63.4
	Less often or never	Count	12	3	15
		% within age group	50.0	17.6	36.6
Total		Count	24	17	**41**
		% within age group	100.0	100.0	100.0

χ^2 (1,41) = 4.490, ***p* = .034**, Cramer's V = .331, Fisher's Exact Test p = .035

LSC28: Frequency of telephone calls with relatives by age

			Age ('recoage2')		Total
			65-74 yrs	**75 yrs and older**	
Frequency of telephone calls with relatives ('reco2eq4a')	Few times a week or daily	Count	13	4	17
		% within age group	54.2	23.5	41.5
	Weekly or less often	Count	11	13	24
		% within age group	45.8	76.5	58.5
Total		Count	24	17	**41**
		% within age group	100.0	100.0	100.0

χ^2 (1,41) = 3.848, ***p* = .050**, Cramer's V = .306, Fisher's Exact Test p = .049

LSC29: Frequency of ICT use with relatives by age

			Age ('recoage2')		Total
			65-74 yrs	**75 yrs and older**	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	15	8	23
		% within age group	62.5	50.9	57.5
	Less often or never	Count	9	8	17
		% within age group	37.5	50.0	42.5
Total		Count	24	16	**40**
		% within age group	100.0	100.0	100.0
χ^2 (1,40) = 0.614, p = .433					

Appendix 27: Family Dependent Support Network Frequencies

Distance (km)	< 2	3-10	11-20	21-100	> 100	None	N
To closest relative	31 (77%)	9 (23%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	40 (100%)
To closest child	29 (73%)	10 (25%)	0 (0%)	0 (0%)	1 (2%)	0 (0%)	40 (100%)
To closest sibling	6 (15%)	8 (20%)	0 (0%)	5 (13%)	15 (37%)	6 (15%)	40 (100%)

Frequency of contact	Daily	2-3 / week	Weekly	Monthly	Less often	No contact	N
Relatives - in person	21 (53%)	12 (30%)	6 (15%)	1 (2%)	0 (0%)	0 (0%)	40 (100%)
Relatives - by phone	10 (25%)	9 (23%)	14 (35%)	3 (7%)	4 (10%)	0 (0%)	40 (100%)
Relatives - by ICT	6 (15%)	6 (15%)	9 (23%)	5 (13%)	3 (7%)	10 (25%)	39 (100%)
Friends - in person	0 (0%)	12 (30%)	12 (30%)	10 (25%)	5 (13%)	1 (2%)	40 (100%)
Friends - by phone	3 (7%)	5 (13%)	14 (35%)	13 (33%)	3 (7%)	2 (5%)	40 (100%)
Friends - by ICT	3 (7%)	2 (5%)	4 (10%)	9 (23%)	7 (17%)	14 (35%)	39 (100%)
Neighbours - in person	1 (2%)	3 (8%)	6 (15%)	12| (30%)	14 (35%)	4 (10%)	40 (100%)

Frequency of attendance	Yes, regularly	Yes, occasionally	No	N
Religious services/events	4 (10%)	8 (20%)	28 (70%)	40 (100%)
Social groups/activities	7 (18%)	15 (37%)	18 (45%)	40 (100%)

Appendix 28: Family Dependent Support Network Chi-Square Tests

FD01: Frequency of contact with neighbours by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	13	9	22
		% within gender	52.0	60.0	55.0
	Less often	Count	12	6	18
		% within gender	48.0	40.0	45.0
Total		Count	25	1	**40**
		% within gender	100.0	100.0	100.0
χ^2 (1,40) = 0.242, p = .622					

FD02: Frequency of contact with neighbours by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	10	12	22
		% within marital status	52.6	57.1	55.0
	Less often	Count	9	9	18
		% within marital status	47.4	42.9	45.0
Total		Count	19	21	**40**
		% within marital status	100.0	100.0	100.0
χ^2 (1,40) = 0.082, p = .775					

FD03: Involvement in social groups and community activities by gender

			Gender ('gender')		Total
			Female	Male	
Social groups and community activities ('reconq8')	Yes	Count	16	6	22
		% within gender	64.0	40.0	55.0
	No	Count	9	9	18
		% within gender	36.0	60.0	45.0
Total		Count	25	15	**40**
		% within gender	100.0	100.0	100.0
χ^2 (1,40) = 2.182, p = .140					

FD04: Involvement in social groups and community activities by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Social groups and community activities ('reconq8')	Yes	Count	11	11	22
		% within marital status	57.9	52.4	55.0
	No	Count	8	10	18
		% within marital status	42.1	47.6	45.0
Total		Count	19	21	**40**
		% within marital status	100.0	100.0	100.0
χ^2 (1,40) = 0.123, p = .726					

FD05: Frequency of contact with neighbours by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs or more	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	8	14	22
		% within age group	44.4	63.6	55.0
	Less often	Count	10	8	18
		% within age group	55.6	36.4	45.0
Total		Count	18	22	**40**
		% within age group	100.0	100.0	100.0
χ^2 (1,40) = 1.473, p = .225					

FD06: Frequency of contact with neighbours by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	17	5	22
		% within health status	63.0	38.5	55.0
	Less often	Count	10	8	18
		% within health status	37.0	61.5	45.0
Total		Count	27	13	**40**
		% within health status	100.0	100.0	100.0
χ^2 (1,40) = 2.218, p = .145					

FD07: Involvement in social groups and community activities by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs or more	
Social groups and community activities ('reconq8')	Yes	Count	8	14	22
		% within age group	44.4	63.6	55.0
	No	Count	10	8	18
		% within age group	55.6	36.4	45.0
Total		Count	18	22	**40**
		% within age group	100.0	100.0	100.0
χ^2 (1,40) = 1.473, p = .225					

FD08: Involvement in social groups and community activities by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Social groups and community activities ('reconq8')	Yes	Count	15	7	22
		% within health status	55.6	53.8	55.0
	No	Count	12	6	18
		% within health status	44.4	46.2	45.0
Total		Count	27	13	**40**
		% within health status	100.0	100.0	100.0
χ^2 (1,40) = 0.010, p = .919					

FD09: Frequency of contact with neighbours by length of residency

			Length of residency ('codearea3')		Total
			< 25 years	25 years or more	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	11	11	22
		% within length of residency	68.8	45.8	55/0
	Less often	Count	5	13	18
		% within length of residency	31.3	54.2	45.0
Total		Count	16	24	**40**
		% within length of residency	100.0	100.0	100.0

χ^2 (1,40) = 2.037, p = .154

FD10: Involvement in social groups and community activities by length of residency

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reconq8')	Yes	Count	9	13	22
		% within living arrangements	56.3	54.2	55.0
	No	Count	7	11	18
		% within living arrangements	43.8	45.8	45.0
Total		Count	16	24	**40**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,40) = 0.017, p = .897

FD11: Frequency of contact with neighbours by living arrangements

			Length of residency ('codearea3')		Total
			< 25 years	25 years or more	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	9	10	19
		% within length of residency	64.3	45.5	52.8
	Less often	Count	5	12	17
		% within length of residency	35.7	54.5	47.2
Total		Count	14	22	**36**
		% within length of residency	100.0	100.0	100.0

χ^2 (1,36) = 1.217, p = .270

FD12: Involvement in social groups and community activities by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reconq8')	Yes	Count	9	10	19
		% within living arrangements	64.3	45.5	52.8
	No	Count	5	12	17
		% within living arrangements	35.7	54.2	47.2
Total		Count	14	22	**36**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,36) = 1.217, p = .270

FD13A: Involvement in social groups and community activities by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Social groups and community activities ('reconq8')	Yes	Count	9	9	4	22
		% within size of town	50.0	81.8	30.0	56.4
	No	Count	6	2	9	17
		% within size of town	40.0	18.2	69.2	43.6
Total		Count	15	11	13	**39**
		% within size of town	100.0	100.0	100.0	**100.0**

χ^2 (2,39) = 6.442, ***p* = .040**, Cramer's V = .406, Fisher's Exact Test not available.

FD13B: Involvement in social groups and community activities by size of town

			Size of town ('sizetown2')		Total
			Large or medium towns	**Small towns**	
Social groups and community activities ('reconq8')	Yes	Count	18	4	22
		% within size of town	69.2	30.8	56.4
	No	Count	8	9	17
		% within size of town	30.8	69.3	43.6
Total		Count	26	13	**39**
		% within size of town	100.0	100.0	100.0

χ^2 (1,39) = 5.214, ***p* = .022**, Cramer's V = .366, Fisher's Exact Test p = .026

FD14: Frequency of contact with neighbours by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Frequency of contact with neighbours ('reconq6')	At least monthly	Count	7	7	7	21
		% within size of town	46.7	63.6	53.8	53.8
	Less often	Count	8	4	6	18
		% within size of town	53.3	36.4	46.2	46.2
Total		Count	15	11	13	**39**
		% within size of town	100.0	100.0	100.0	**100.0**

χ^2 (2,39) = 0.735, *p* = .692

FD15: Frequency of contact with friends by age

			Age ('recoage2')		Total
			65-74 yrs	**75 yrs or more**	
Frequency of contact with friends ('reco2nq5')	Weekly or more often	Count	11	13	24
		% within age group	61.1	59.1	60.0
	Less often or never	Count	7	9	16
		% within age group	38.9	40.9	40.0
Total		Count	18	22	**40**
		% within age group	100.0	100.0	100.0

χ^2 (1,40) = 0.017, *p* = .897

FD16: Frequency of contact with friends by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with friends ('reco2nq5')	Weekly or more often	Count	18	6	24
		% within health status	66.7	46.2	60.0
	Less often or never	Count	9	7	16
		% within health status	33.3	53.8	40.0
Total		Count	27	13	**40**
		% within health status	100.0	100.0	**100.0**

χ^2 (1,40) = 1.538, p = .215

FD17: Frequency of contact with friends by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of contact with friends ('reco2nq5')	Weekly or more often	Count	16	8	24
		% within gender	64.0	53.3	60.0
	Less often or never	Count	9	7	16
		% within gender	36.0	46.7	40.0
Total		Count	25	15	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 0.444, p = .505

FD18 Frequency of contact with friends by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of contact with friends ('reco2nq5')	Weekly or more often	Count	13	11	24
		% within marital status	68.4	52.4	60.0
	Less often or never	Count	6	10	16
		% within marital status	31.6	47.6	40.0
Total		Count	19	21	**40**
		% within marital status	100.0	100.0	100.0

χ^2 (1,40) = 1.069, p = .301

FD19: Frequency of contact with friends by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of contact with friends ('reco2nq5')	Weekly or more often	Count	9	13	22
		% within living arrangements	64.3	59.1	61.1
	Less often or never	Count	5	9	14
		% within living arrangements	35.7	40.9	38.9
Total		Count	14	22	**36**
		% within living arrangements	100.0	100.0	100.0

χ^2 (1,36) = 0.097, p = .775

FD20: Frequency of telephone calls with friends by gender

			Gender ('gender')		Total
			Female	**Male**	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	17	5	22
		% within gender	68.0	33.3	55.0
	Less often of never	Count	8	10	18
		% within gender	32.0	66.7	45.0
Total		Count	25	15	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 4.552, ***p* = .033**, Cramer's V = .337, Fisher's Exact Test p = .035

FD21: Frequency of telephone calls with friends by frequency of face-to-face contact

			Frequency of contact with friends ('reco2nq5')		Total
			Weekly or more often	**Less often**	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	19	3	22
		% within gender	79.2	18.8	55.0
	Less often of never	Count	5	13	18
		% within gender	20.8	81.3	45.0
Total		Count	24	16	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 14.158, ***p* < .001**, Cramer's V = .595, Fisher's Exact Test p = .000

FD22: Frequency of telephone calls with friends by frequency of ICT use

			Frequency of ICT use with friends ('reco2eq5b')		Total
			Weekly or more often	**Less often**	
Frequency of telephone calls with friends ('recoeq5a')	Weekly or more often	Count	13	8	21
		% within gender	72.2	38.1	53.8
	Less often of never	Count	5	13	18
		% within gender	27.8	61.9	46.2
Total		Count	18	21	**39**
		% within gender	100.0	100.0	100.0

χ^2 (1,39) = 4.542, ***p* = .033**, Cramer's V = .341, Fisher's Exact Test p = .034

FD23A: Frequency of ICT use with friends by size of town

			Size of town ('sizetown')			Total
			Large	**Medium**	**Small**	
Frequency of ICT use with friends ('reco2eq5b')	Monthly or more often	Count	5	10	2	17
		% within size of town	35.7	90.9	15.4	44.7
	Less often or never	Count	9	1	11	21
		% within size of town	64.3	9.1	84.6	55.3
Total		Count	14	11	13	**38**
		% within size of town	100.0	100.0	100.0	**100.0**

χ^2 (2,38) = 14.477, ***p* = .001**, Cramer's V = .617, Fisher's Exact Test not available

FD23B: Frequency of ICT use with friends by size of town

			Size of town ('sizetown2')		Total
			Large and medium towns	Smaller towns	
Frequency of ICT use with friends ('reco2eq5b')	Monthly or more often	Count	15	2	44.7
		% within gender	60.0	15.4	
	Less often or never	Count	10	11	55.3
		% within gender	40.0	84.6	
Total		Count	25	13	**38**
		% within gender	100.0	100.0	100.0

χ^2 (1,38) = 6.886, ***p* = .009**, Cramer's V = .426, Fisher's Exact Test p = .010

FD24: Frequency of ICT use with relatives by size of town

			Size of town ('sizetown2')		Total
			Large and medium towns	Smaller towns	
Frequency of ICT use with relatives ('recoeq4b')	Weekly or more often	Count	17	4	21
		% within gender	68.0	30.8	55.3
	Less often or never	Count	8	9	17
		% within gender	32.0	69.2	44.7
Total		Count	25	13	**38**
		% within gender	100.0	100.0	100.0

χ^2 (1,38) = 4.795, ***p* = .029**, Cramer's V = .355, Fisher's Exact Test p = .032

FD25: Frequency of ICT use with friends by length of residency

			Length of residency ('codearea3')		Total
			< 25 years	25 years or more	
Frequency of ICT use with friends ('reco2eq5b')	Monthly or more often	Count	12	6	18
		% within length of residency	75.0	26.1	46.2
	Less often or never	Count	4	17	21
		% within length of residency	25.0	73.9	53.8
Total		Count	16	23	**39**
		% within length of residency	100.0	100.0	100.0

χ^2 (1,39) = 9.084, ***p* = .003**, Cramer's V = .483, Fisher's Exact Test p = .003

FD26: Involvement in social groups and community activities by freq. of contact with friends

			Frequency of contact with friends ('reconq5')		Total
			Few times a week	Weekly or less often	
Social groups and community activities ('reconq8')	Yes	Count	8	14	22
		% within gender	66.7	50.0	55.0
	No	Count	4	14	18
		% within gender	33.3	50.0	45.0
Total		Count	12	28	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 0.943, *p* = .332

FD27: Involvement in social groups and community activities by freq. phone calls with friends

			Frequency of telephone calls with friends ('recoea5a')		Total
			Weekly or more often	Less often or never	
Social groups and community activities ('reconq8')	Yes	Count	14	8	22
		% within gender	63.6	44.4	55.0
	No	Count	8	10	18
		% within gender	36.4	55.6	45.0
Total		Count	22	18	**40**
		% within gender	100.0	100.0	100.0

χ^2 (1,40) = 1.473, p = .225

FD28: Frequency of contact with relatives by size of town

			Size of town ('sizetown')			Total
			Large	Medium	Small	
Frequency of contact with relatives ('reconq4')	Daily	Count	8	5	7	20
		% within size of town	53.3	45.5	53.8	51.3
	Less often	Count	7	6	6	19
		% within size of town	46.7	54.5	46.2	48.7
Total		Count	15	11	13	**39**
		% within size of town	100.0	100.0	100.0	**100.0**

χ^2 (2,39) = 0.209, p = .901

FD29: Frequency of contact with relatives by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs or more	
Frequency of contact with relatives ('reconq4')	Daily	Count	12	9	21
		% within age group	66.7	40.9	52.5
	Less often	Count	6	13	19
		% within age group	33.3	59.1	47.5
Total		Count	18	22	**40**
		% within age group	100.0	100.0	100.0

χ^2 (1,40) = 2.634, p = .105

FD30: Frequency of telephone calls with relatives by age

			Age ('recoage2')		Total
			65-74 yrs	75 yrs or more	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	8	11	19
		% within age group	44.4	50.0	47.5
	Weekly or less often	Count	10	11	21
		% within age group	55.6	50.0	52.5
Total		Count	18	22	**40**
		% within age group	100.0	100.0	100.0

χ^2 (1,40) = 0.123, p = .726

FD31: Frequency of contact with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of contact with relatives ('reconq4')	Daily	Count	12	9	21
		% within health status	44.4	69.2	52.5
	Less often	Count	15	4	19
		% within health status	55.6	30.8	47.5
Total		Count	27	13	**40**
		% within health status	100.0	100.0	100.0
χ^2 (1,40) = 2.162, p = .141					

FD32: Frequency of telephone calls with relatives by health status

			Health status ('rehealth')		Total
			Generally good	Bit up and down or generally poor	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	10	9	19
		% within health status	37.0	69.2	47.5
	Weekly or less often	Count	17	4	21
		% within health status	63.0	30.8	52.5
Total		Count	27	13	**40**
		% within health status	100.0	100.0	100.0
χ^2 (1,40) = 3.647, p = .0.56					

FD33: Frequency of contact with relatives by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of contact with relatives ('reconq4')	Daily	Count	14	7	21
		% within gender	56.0	46.7	52.5
	Less often	Count	12	6	18
		% within gender	48.0	40.0	47.5
Total		Count	25	1	**40**
		% within gender	100.0	100.0	100.0
χ^2 (1,40) = 0.327, p = .567					

FD34: Frequency of telephone calls with relatives by gender

			Gender ('gender')		Total
			Female	Male	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	13	6	19
		% within gender	52.0	40.0	47.5
	Weekly or less often	Count	12	9	21
		% within gender	48.0	60.0	52.5
Total		Count	25	15	**40**
		% within gender	100.0	100.0	100.0
χ^2 (1,40) = 0.541, p = .462					

FD35 Frequency of contact with relatives by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of contact with relatives ('reconq4')	Daily	Count	8	13	21
		% within marital status	42.1	61.9	52.5
	Less often	Count	11	8	18
		% within marital status	57.9	38.1	47.5
Total		Count	19	21	**40**
		% within marital status	100.0	100.0	100.0
χ^2 (1,40) = 1.568, p = .210					

FD36 Frequency of telephone calls with relatives by marital status

			Marital status ('remarital')		Total
			Married	Widowed, not married and never married	
Frequency of telephone calls with relatives ('recoeq4a')	Few times a week or daily	Count	9	10	19
		% within marital status	47.4	47.6	47.5
	Weekly or less often	Count	10	11	21
		% within marital status	52.6	52.4	52.5
Total		Count	19	21	**40**
		% within marital status	100.0	100.0	100.0
χ^2 (1,40) = 0.000, p = .987					

FD37: Frequency of contact with relatives by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Frequency of contact with relatives ('reconq4')	Daily	Count	6	15	21
		% within living arrangements	42.9	68.2	58.3
	Less often	Count	8	7	15
		% within living arrangements	57.1	31.8	41.7
Total		Count	14	22	**36**
		% within living arrangements	100.0	100.0	**100.0**
χ^2 (1,36) = 2.258, p = .133					

FD38: Frequency of telephone calls with relatives by living arrangements

			Living arrangements ('living')		Total
			Live alone	Live with others	
Social groups and community activities ('reco2nq8')	Yes, regularly	Count	7	10	17
		% within living arrangements	50.0	45.5	47.2
	Occasionally or no	Count	7	12	19
		% within living arrangements	50.0	54.5	52.8
Total		Count	14	22	**36**
		% within living arrangements	100.0	100.0	100.0
χ^2 (1,36) = 0.071, p = .790					

Appendix 29: Network Type Chi-Square Tests Part 1

Variable	Variable Groups	Description	Network Type					Total
			Family Dependent	Locally Integrated	Local Self Contained	Wider Community Focused	Private Restricted	
Age^**	65 – 74 years	Count % within network type	18 45.0	25 36.2	24 58.5	82 55.8	53 64.6	202 53.3
	75 years and older	Count % within network type	22 55.0	44 63.8	17 41.5	65 44.2	29 35.4	177 46.7
	Total	Count % within network type	40 100.0	69 100.0	41 100.0	147 100.0	82 100.0	**379** 100.0
	χ^2 (4,379) = 14.230, ***p* = .007**							
Gender	Female	Count % within network type	25 62.5	43 62.3	23 57.5	90 61.2	37 45.7	218 57.8
	Male	Count % within network type	15 37.5	26 37.7	17 42.5	57 38.8	44 54.3	159 42.2
	Total	Count % within network type	40 100.0	69 100.0	40 100.0	147 100.0	81 100.0	**377** 100.0
	χ^2 (4,377) = 6.528, p = .163							
Marital Status*	Married	Count % within network type	19 47.5	36 52.9	25 61.0	85 57.8	48 59.3	213 56.5
	Widowed	Count % within network type	17 42.5	27 39.7	8 19,5	36 24.5	17 21.0	105 27.9
	Not married and never married	Count % within network type	4 10.0	5 7.4	8 19.5	26 17.7	16 19.8	59 15.6
	Total	Count % within network type	40 100.0	69 100.0	40 100.0	147 100.0	81 100.0	**377** 100.0
	χ^2 (8,377) = 15.988, ***p* = .043**							
Living alone or with others	Live alone	Count % within network type	14 38.9	30 46.2	15 41.7	57 42.2	31 39.2	147 41.9
	Live with others	Count % within network type	22 61.1	35 53.8	21 58.3	78 57.8	48 60.8	204 58.1
	Total	Count % within network type	36 100.0	65 100.0	36 100.0	135 100.0	79 100.0	**351** 100.0
	χ^2 (4,351) = 0.853, p = .931							
Health Status	Generally good	Count % within network type	27 67.5	47 69.1	27 65.9	116 78.9	55 67.9	272 72.1
	Bit up and down or generally poor	Count % within network type	13 32.5	21 30.9	14 34.1	31 21.1	26 32.1	105 27.9
	Total	Count % within network type	40 100.0	68 100.0	41 100.0	147 100.0	81 100.0	**377** 100.0
	χ^2 (4,377) = 5.623, p = .229							

*p < .05, **p < .01, ***p < .001, ^Also analysed as ratio variables at Appendix 33

Appendix 30: Network Type Chi-Square Tests Part 2

Variable	Groups	Description	Network Type					Total
			Family Dependent	Locally Integrated	Local Self Contained	Wider Community Focused	Private Restricted	
Length of residency **^	Less than 25 yrs	Count	16	32	23	94	61	226
		% within network type	40.0	47.8	56.1	63.9	74.4	59.9
	25 years or more	Count	24	35	18	53	21	151
		% within network type	60.0	52.2	43.9	36.1	25.6	40.1
	Total	Count	40	67	41	147	82	**377**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,377) = 19.128, ***p* = .001**							
Size of town	Large	Count	15	27	14	45	14	115
		% within network type	38.5	39.1	35.0	30.8	17.5	30.7
	Medium	Count	11	25	11	57	33	137
		% within network type	28.2	36.2	27.5	39.0	41.3	36.6
	Small	Count	13	17	15	44	33	122
		% within network type	33.3	24.6	37.5	30.1	41.3	32.6
	Total	Count	39	69	40	146	80	**374**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (8,374) = 13.248, *p* = .104							
Level of education	Year 10	Count	13	26	8	39	23	109
		% within network type	41.9	49.1	27.6	33.1	38.3	37.5
	TAFE	Count	9	13	8	34	13	77
		% within network type	29.0	24.5	27.6	28.8	21.7	26.5
	University	Count	9	14	13	45	24	105
		% within network type	29.0	26.4	44.8	38.1	40.0	36.1
	Total	Count	31	53	29	118	60	**291**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (8,291) = 7.190, *p* = .516							
Distance of closest relative***	Within 100km	Count	40	69	40	41	13	203
		% within network type	100.0	100.0	97.6	28.1	16.3	54.0
	100km or more	Count	0	0	1	105	67	173
		% within network type	0.0	0.0	2.4	71.9	83.8	46.0
	Total	Count	40	69	41	146	80	**376**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,376) = 209.543, ***p* < .001**							
Distance of closest child***	Within 100km	Count	39	64	33	30	7	173
		% within network type	97.5	95.5	86.8	21.6	9.5	48.3
	100km or more	Count	1	3	5	109	67	185
		% within network type	2.5	4.5	13.2	78.4	90.5	51.7
	Total	Count	40	67	38	139	74	**358**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,358) = 205.646, ***p* < .001**							

**p* < .05, ***p* < .01, ****p* < .001, ^Also analysed as ratio variables at Appendix 34

Appendix 31: Network Type Chi-Square Tests Part 3

Variable	Groups	Description	Network Type					Total
			Family Dependent	Locally Integrated	Local Self Contained	Wider Community Focused	Private Restricted	
Distance of closest sibling* **	No living sibling	Count	6	6	5	35	21	73
		% within network type	15.0	8.7	12.5	23.8	25.9	19.4
	Within 100km	Count	19	30	18	13	2	82
		% within network type	47.5	43.5	45.0	8.8	2.5	21.8
	100km or more	Count	15	33	17	99	58	222
		% within network type	37.5	47.8	42.5	67.3	71.6	58.9
	Total	Count	40	69	40	147	81	**377**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (8,377) = 81.314, ***p* < .001**							
Visits with relatives * **	Weekly or more often	Count	39	66	26	18	5	154
		% within network type	97.5	95.7	63.4	12.2	6.2	40.7
	Less often	Count	1	3	15	129	76	224
		% within network type	2.5	4.3	36.6	76.8	93.8	59.3
	Total	Count	40	69	41	147	81	**378**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,378) = 237.816, ***p* < .001**							
Telephone calls with relatives * **	Weekly or more often	Count	33	64	33	108	46	284
		% within network type	82.5	92.8	80.5	73.5	56.1	74.9
	Less often	Count	7	5	8	39	36	95
		% within network type	17.5	7.2	19.5	26.5	43.9	25.1
	Total	Count	40	69	40	147	81	**379**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,379) = 29.215, ***p* < .001**							
ICT use with relatives	Weekly or more often	Count	21	42	23	79	34	199
		% within network type	53.8	64.6	57.5	54.5	41.5	53.6
	Less often	Count	18	23	17	66	48	172
		% within network type	46.2	35.4	42.5	45.5	58.5	46.4
	Total	Count	39	65	40	145	82	**371**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,371) = 8.319, p = .081							
Visits with friends* **	Weekly or more often	Count	24	66	26	140	50	306
		% within network type	60.0	95.7	63.4	95.2	61.0	80.7
	Less often	Count	16	3	15	7	32	73
		% within network type	40.0	4.3	36.6	4/8	39.0	19.3
	Total	Count	40	69	41	147	82	**379**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,379) = 69.311, ***p* < .001**							

*p < .05, **p < .01, ***p < .001,

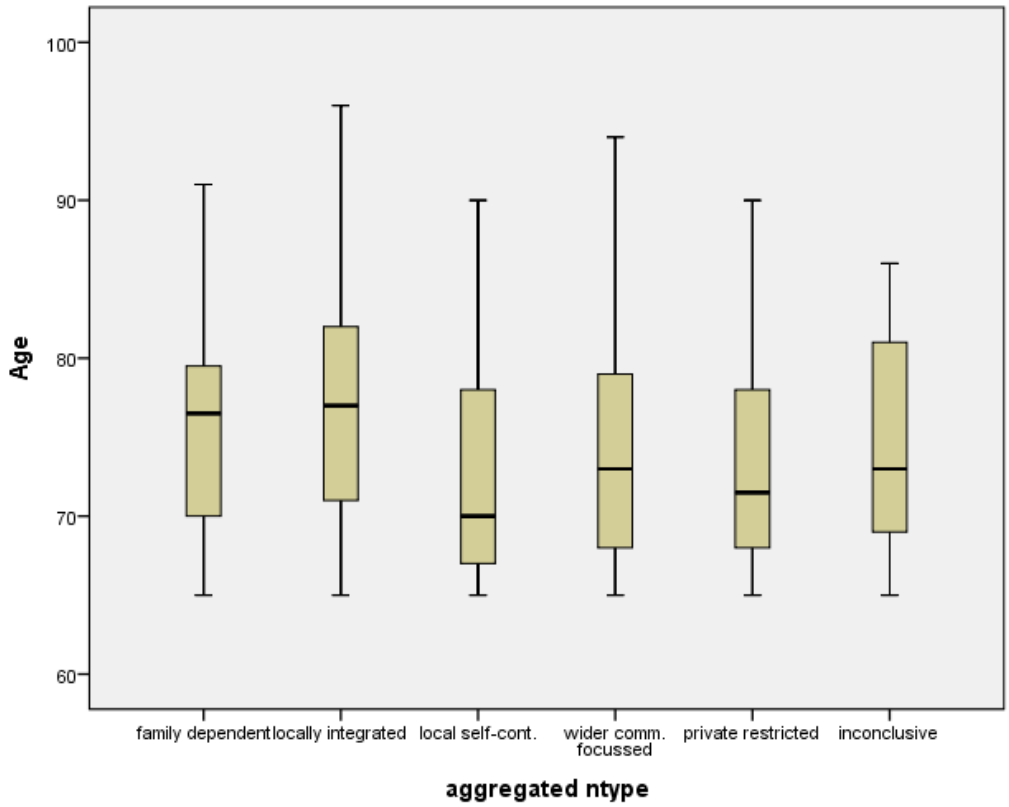
Appendix 32: Network Type Chi-Square Tests Part 4

Variable	Groups	Description	Network Type					Total
			Family Dependent	Locally Integrated	Local Self Contained	Wider Community Focused	Private Restricted	
Telephone calls with friends* **	Weekly or more often	Count	22	55	25	115	46	263
		% within network type	55.0	79.7	61.0	78.2	56.1	69.4
	Less often	Count	18	14	16	32	36	116
		% within network type	45.0	20.3	39.0	21.8	43.9	30.6
	Total	Count	40	69	41	147	82	**379**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,379) = 20.959, ***p* < .001**							
ICT use with friends* **	Weekly or more often	Count	9	29	16	71	25	150
		% within network type	23.1	45.3	40.0	49.3	32.1	41.1
	Less often	Count	30	35	24	73	53	215
		% within network type	76.9	54.7	60.0	50.7	67.9	58.9
	Total	Count	39	64	40	144	79	**365**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,365) = 12.366**, *p* = .015**							
Contact with neighbours ***	Weekly or more often	Count	10	65	21	104	33	233
		% within network type	25.0	94.2	51.2	71.2	40.2	61.6
	Less often	Count	30	4	20	42	49	145
		% within network type	75.0	5.8	48.8	28.8	59.8	38.4
	Total	Count	40	69	41	146	82	**378**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,378) = 77.094, ***p* < .001**							
Attendance at religious services* **	Yes, regularly	Count	4	27	1	37	4	73
		% within network type	10.0	39.1	2.4	25.2	4.9	19.3
	Occasionally or no	Count	36	42	40	110	78	305
		% within network type	90.0	60.9	97.6	74.8	95.1	80.7
		Count	40	69	41	147	82	**379**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,379) = 41.392, ***p* < .001**							
Social clubs and/or community activities* **	Yes, regularly	Count	7	57	12	116	18	210
		% within network type	17.5	82.6	29.3	78.9	22.5	55.7
	Occasionally or no	Count	33	12	29	31	62	167
		% within network type	82.5	17.4	70.7	21.1	77.5	44.3
	Total	Count	40	69	41	147	80	**377**
		% within network type	100.0	100.0	100.0	100.0	100.0	100.0
	χ^2 (4,377) = 123.346, ***p* < .001**							

*$p < .05$, **$p < .01$, ***$p < .001$,

Appendix 33: Comparing Support Network Type Age Profiles

The mean and median ages were different across the network types and these differences were deemed statistically significant with the Kruskal-Wallis test* ***p*=0.008**.

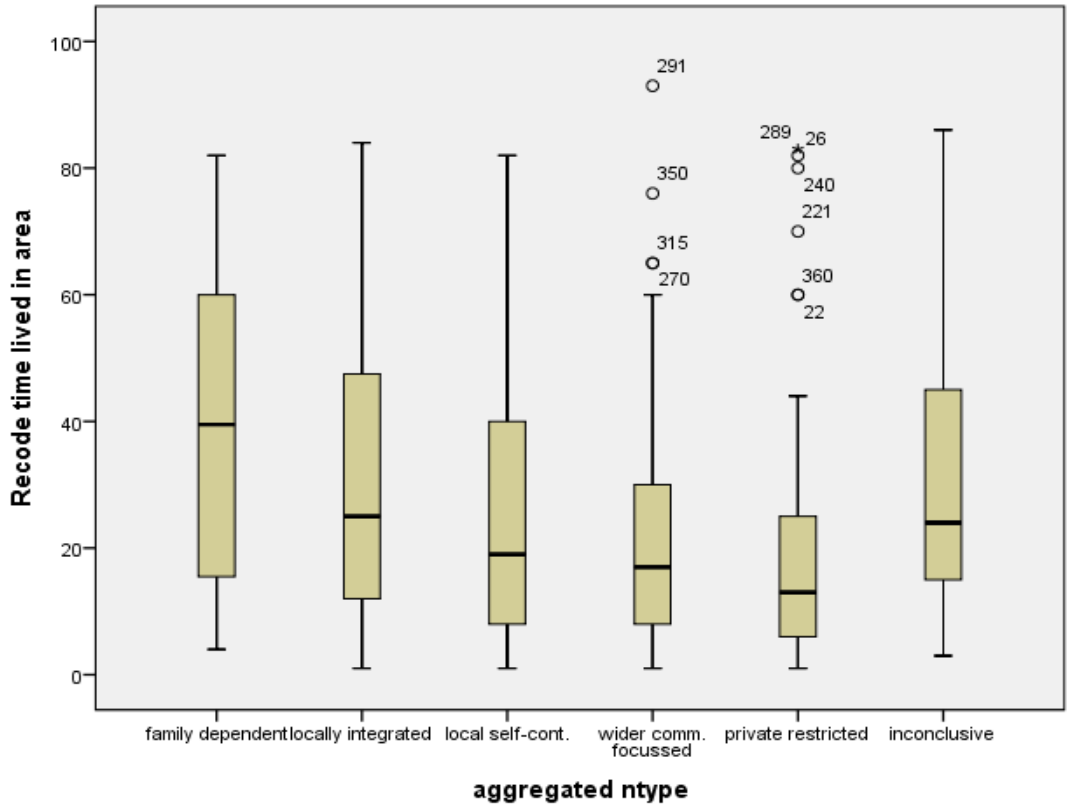


Family dependent (*M* = 75.53, SD = 7.035) Median = 76.50
Locally Integrated (*M* = 77.23, SD = 7.708) Median = 77.00
Local Self-Contained (*M* = 73.39, SD = 7.655) Median = 70.00
Wider Community Focussed (*M* = 74.28, SD = 6.941) Median = 73.00
Private Restricted (*M* = 73.24, SD = 6.558) Median = 71.50
Inconclusive (*M* = 75.18, SD = 7.069) Median = 73.00

**The age variable data were transformed to ranked means, and the non-parametric Levene's test used to confirm homogeneity of variance between five social network types to enable application of the Kruskal-Wallis test.*

Appendix 34: Comparing Support Network Type Residency Profiles

The mean and medians for different network types had different 'Time lived in area' profiles. These differences were deemed significant through the Kruskal-Wallis test* ***p*<0.001**.



Family dependent (*M* = 38.98, SD = 25.239) Median = 39.50
Locally Integrated (*M* = 31.97, SD = 24.146) Median = 25.00
Local Self-Contained (*M* = 26.54, SD = 23.138) Median = 19.00
Wider Community Focussed (*M* = 20.78, SD = 17.135) Median = 17.00
Private Restricted (*M* = 18.07, SD = 18.590) Median = 13.00
Inconclusive (*M* = 32.50, SD = 24.853) Median = 24.00

**The 'time lived in area' variable data were transformed to ranked means, and the non-parametric Levene's test used to confirm homogeneity of variance between five social network types to enable application of the Kruskal-Wallis test.*