CHALLENGING WHAT IS KNOWN: A MIXED METHOD STUDY OF PERCEPTIONS AND EXPERIENCES OF SOCIAL EXCLUSION AMONG THE OLDEST OLD

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Statement of Original Authorship

This thesis contains no material that has been extracted in whole or in part from a thesis that I have submitted towards the award of any other degree or diploma in any other tertiary institution.

No other person's work has been used without due acknowledgment in the main text of the thesis.

All research procedures reported in the thesis received the approval of the relevant Ethics/Safety Committees (where required).

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Abstract

Introduction

People aged 80 and beyond constitute the fastest growing sector of the Australian population. Referred to as the 'oldest old', they are generally assumed to be most vulnerable to social exclusion, yet their voices are seldom studied. Although there is no consensus when it comes to a definition of social exclusion, nor measurement, or systematic collection of data, social exclusion is often conceptualised as a dynamic process by which individuals, groups and populations are prevented from realising their rights and opportunities for health and wellbeing (Popay et al., 2008). This thesis addresses a key gap in the literature, namely, to examine the context, causes, and consequences of social exclusion among the oldest old.

Method

Guided by the paradigm of constructivism, this thesis employed a critical gerontology theoretical framework and a mixed-methods research design (quantitative and qualitative). The first study was a cross-sectional analysis of a national data source (Housing, Income and Labour Dynamics in Australia wave 16, n= 307) and examined whether individual- and neighbourhood-level characteristics were associated with perceived social exclusion, and whether these factors relate to health using ANOVA and multivariable linear regression. Measures of individual-level characteristics included household composition, housing tenure, annual equivalised income, country of birth, level of education, and disability status. The neighbourhood-level characteristic measured was neighbourhood area disadvantage. The social exclusion measures covered perceived unsupportive relationships, perceived neighbourhood exclusion and community disengagement, and were derived via Principal Components Analysis. The contribution of social exclusion to the relationship between sociodemographic characteristics and health was examined using effect modification analysis.

The qualitative study consisted of in-depth semi-structured interviews with a subgroup often missing in population surveys but singled out in the literature as being at risk of social exclusion: public housing residents who live alone. Purposive sampling, which included doorknocking, recruited 13 participants. Transcriptions of interviews were examined using thematic analysis. Findings based on the integration and interpretation of the quantitative and qualitative study are drawn together to offer new knowledge about social exclusion amongst the oldest old.

Results

Household composition, level of education and neighbourhood disadvantage were found to be associated with differing vulnerability and differing measures (domains) of social exclusion for men and women. Oldest old men who live alone (compared to those in multi-person households) were more likely to perceive themselves to be lacking in supportive relationships. For men, living in poorer neighbourhoods was associated with a heightened perception of feeling their neighbourhood was unsafe. Conversely, living alone for women was associated with higher levels of community engagement. For women, living in poorer neighbourhoods was associated with higher levels of neighbourhood cohesion. Both men and women with lower levels of education than their counterparts were more disengaged from their community. These associations remained significant after adjustment for sociodemographic factors.

The second component of the quantitative study revealed limited evidence that individual- and neighbourhood characteristics influenced self-reported health. For men, higher income and disability status were significantly associated with poorer general health, and for women, living in a multi-person household and reporting a disability were significantly associated with poor general health. For both men and women, disability was the only factor found to be significantly associated with poorer mental health, suggesting that mental health was similar irrespective of household composition, housing tenure, income level, country of birth, education, and whether one lived in an advantaged or disadvantaged neighbourhood.

There was limited evidence of the moderating effect of social exclusion on the relationship between individual- and neighbourhood characteristics and health. Contrary to expectations, it appeared that higher levels of social exclusion contributed to better health. For example: for women who were born in a country where English was not the native language, higher perceptions of neighbourhood exclusion (i.e. crime and noise) had a positive effect on mental health; and for women living in disadvantaged neighbourhoods increasing neighbourhood noise had a positive effect on general health.

From the qualitative study, seven themes emerged from the interviews which seemed to have a protective effect on perceptions of non-social exclusion. These were sense of supportive relationships, sense of neighbourhood, sense of physical and mental health, sense of home and autonomy, life-course experiences, psychological beliefs and adaptations, and contributing to society. The qualitative interviews showed that lone dwelling oldest old living in public housing did not identify with social exclusion.

Discussion and Conclusions

A growing body of literature suggests that the oldest old, especially those from a disadvantaged background, are vulnerable to the poor health and wellbeing outcomes of social exclusion. The oldest old are underrepresented in social exclusion research. The integration of the mixed method findings via meta-inference provides new and deeper insight into the interrelationship and pathways between ageing and exclusion from participants own perceptions and lived experience. First, there was limited compelling evidence of social exclusion amongst vulnerable groups of oldest old. Second, some characteristics thought to increase vulnerability to social exclusion, such as living alone and lower socioeconomic position (e.g. public housing residents) appeared to reduce the likelihood that the oldest old perceived themselves to be socially excluded. Third, the findings point to the need for critical reflection on the definition and measurement of social exclusion, and researchers' role in the propagation of ageist assumptions equating advanced age with social exclusion.

The findings support a public health response that includes prevention and intervention. Prevention strategies addressing socioeconomic inequalities over the life-course, such as access to health, education, community care, housing and income security, are examples that could reduce oldest old social exclusion. Individual-level intervention strategies that foster social relationships also have potential. Recommendations for further research are to increase representation of the oldest old in social exclusion research and to explore life-course resilience - both of which are important for challenging current negative ageist stereotypes that equate old with exclusion.

***Keywords*:** Social exclusion, oldest old, healthy ageing, life-course and mixed methods

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Foreword

What Brought me to this PhD?

In keeping with the constructivist grounding of my thesis, I would like to begin by providing the context for why I wanted to study social exclusion among oldest old living in a disadvantaged area, and how my personal position (positionality) influenced the research to follow.

What brought me to undertake a PhD and to research social exclusion among the oldest old was a serious concern about what I believed was the neglect of older people in public housing. I had previously worked in the community service sector with older people, most of whom were in their 60s and 70s. With a strong sense of social justice, I wished to advocate for their future. At the time, it seemed to me that it was unfair that they were ignored, isolated, and left to fend for themselves. Although I had no personal relationships with people in their 80s and 90s, I imagined that for a very old person, the circumstances of living alone in public housing and not going out, would be detrimental to their health and wellbeing.

It occurred to me that I should try to undertake a PhD to bring this issue to light. My tertiary education in Anthropology and Public Health makes me cognisant of the many assumptions behind what I (and we) take for granted in society, and how my positionality or sociodemographic profile influences what I think and believe to be true. Therefore, it is important for me to make clear from the beginning that I have little in common with the people on which this thesis is based. I approached the study from the perspective of a younger female, about half the age of the people studied in this PhD. I did not live in the study location, nor did I live alone.

To acknowledge my influence on the investigation, I will provide reflections in the Discussion and Conclusion Chapter and conclude with my final reflections in an Afterword. The following chapter sets the contextual scene for my research into social exclusion amongst the oldest old.

Chapter 1: Introduction

Australia has an ageing population (Australian Bureau of Statistics, 2018c). The greatest proportional population growth is projected to be in the oldest age group; often referred to as the 'oldest old' (Cherry et al., 2013; Cresswell-Smith et al., 2018). Criteria for oldest old vary, yet there is a view that an oldest old person has outlived their generations average life expectancy, with the most common stratifications being aged over 80, and aged over 85 (Kydd et al., 2020). In this thesis oldest old refer to people in their 80s and 90s.

In 2018, the number of people aged 85 years and over in Australia was estimated to be 503,700 (Australian Bureau of Statistics, 2018b). By 2046 it is expected to triple, to 1.5 million people (Australian Institute of Health and Welfare, 2014). To live to old age in good physical and mental health is an aspiration for many ageing policies (Beard et al., 2016; World Health Organization, 2015). Yet previous literature reports that with increasing age comes increasing levels of social exclusion (Barnes, 2006; Kneale, 2012; Prattley et al., 2020). Social exclusion prevents individuals, groups and populations from realising their rights and opportunities for health and wellbeing (Popay et al., 2008).

A definition of social exclusion that guides this thesis, is proposed by Peace (2001): "Social exclusion incorporates how processes deprive people and communities access to opportunities to achieve well-being and security in the terms that are important to them" (p. 34). This definition calls for understanding of lived experience, including preferences and perceptions. The emphasis on 'well-being in terms that are important to each individual', also aligns with a social justice and human rights-based approach to ageing (United Nations, 2016) which is likely to be relevant to the oldest old.

Social exclusion is a global problem (Popay et al., 2008). Within European countries in 2008, approximately 120 million people or approximately 24 % of the population were found to be considered socially excluded (European Commission, 2020). In Australia in 2007, it was estimated that approximately 25% of all adults aged 18 and older experienced social exclusion (Scutella, 2013). In addition to increasing age, other frequently cited risk factors for social exclusion include low socioeconomic position (SEP) (Tomaszewski, 2013), disability (Jehoel-Gijsbers & Vrooman, 2008), living in disadvantaged neighbourhoods (Prattley et al., 2020) and living alone (Barnes, 2006; Kneale, 2012).

A complex bi-directional link has been established between social exclusion and various health and wellbeing outcomes including morbidity, disability and depression (Cacioppo & Cacioppo, 2014; Leigh-Hunt et al., 2017), lower quality of life (Dahlberg & McKee, 2018), and unmet care needs (Kim & Kawachi, 2017). Yet despite this acknowledgment of social exclusion as a major impediment to healthy ageing, the oldest old - thought to be vulnerable - are underrepresented in social exclusion inquiry. Therefore, the overarching aim of this thesis is to examine the context, causes, and consequences of social exclusion among the oldest old.

1.1 Background and Study Approach

This thesis was founded on the notion that social exclusion was a useful construct in understanding health and wellbeing among the oldest old (see Chapter 2). Adopting a constructivist paradigm concerned with subjective lived experience placed the oldest old at the centre of this inquiry. Critical gerontology theory (Biggs et al., 2003; Phillipson, 2013) further added to the understanding of the heterogeneity of ageing, and encouraged a critique of what is "factual or universally true" (Biggs et al., 2003, p. 245). The socio-ecological model of health (Bauman et al., 2002; McLeroy et al., 1988) and life-course perspective (Phillipson, 2013) provided the structural and individual level conceptualisation for investigating health and wellbeing. The life-course perspective and the social-ecological model were used in tandem with previous social exclusion literature to develop an initial proposed conceptual framework of oldest old social exclusion. This framework was subsequently used to guide the research questions and research method. The study design incorporated a mixed methods approach using both quantitative research involving population-based measurement and the descriptive nature of qualitative research. The integration of results from both studies offers a unique insight into the complex phenomenon of social exclusion.

1.2 Research Aim

The research broadly aims to examine the context, causes, and consequences of social exclusion among the oldest old. The specific research questions are presented at the end of the literature review chapter (section 2.6.3)

1.3 Scope, Delimitations and Definitions of Key Concepts

The focus of this thesis was the perceived social exclusion of community dwelling oldest old. Acknowledging the multiple domains of social exclusion, this thesis focused on perceived unsupportive social relationships, perceived neighbourhood exclusion, and community disengagement. The qualitative study added life-course exclusion. These domains were identified from a review of the literature as likely to be most relevant to the oldest old (see Chapter 2).

Social exclusion is linked with several other similar (but distinct) concepts: social isolation, loneliness, social participation, social support, neighbourhood cohesion and ageism. The literature review revealed that these factors shape and influence social exclusion. Although the thesis focus was on social exclusion, this adjacent literature was also consulted when applicable to the oldest old. A brief summary of these concepts and how they relate to social exclusion are discussed below.

Social exclusion broadly refers to a dynamic process by which individuals, groups and populations are prevented from realising their rights and opportunities for health and wellbeing (Popay et al., 2008). Older age social exclusion is shaped by multiple factors including contextual, individual, and interpersonal (Walsh et al., 2017).

Social isolation describes the absence of social contact. Isolation can consist of staying at home for lengthy periods of time, having no access to services or community involvement, and little or no communication with friends, family, and acquaintances (Klinenberg, 2001). Social isolation that is involuntary which occurs beyond the control of those subject to it is classified as *social exclusion* (Barry, 1998).

An emotional response to social isolation and social exclusion may be the feeling of *loneliness* (Valtorta & Hanratty, 2016). Perlman and Peplau (1981) described loneliness as an unpleasant and distressing feeling "arising from the discrepancy between individuals' desired and achieved level of social relations" (p. 32). In other words, loneliness arises due to a mismatch between actual and expected social interaction.

Social participation refers to involvement in the activities of a social group; social engagement and civic engagement are both forms of social participation. Social participation describes individuals seeking to influence and involve themselves in the community, often via civic engagement such as, political activity, membership and volunteering (Levasseur et al., 2010).

Social support comprises of several elements including emotional support and tangible support (Krause 2007). Social support has been defined as: "The social resources that persons perceive to be available or that are actually provided to them by non-professionals in the context of both formal support groups and informal helping relationships" (Cohen et al., 2000, p. 4).

Social (in)cohesion is often used interchangeably with *neighbourhood cohesion*. It is referred to as the willingness of members of a society to cooperate with each other in order to survive and prosper (Stanley, 2003). Social cohesion encompasses solidarity and a sense of community. On a societal level, social incohesion (the opposite to social cohesion) dismantles the social bonds that hold society together (Silver, 2010).

Ageism is considered a form of discrimination or prejudice towards people based on their age (Butler, 1975). Ageism contributes to the exclusion of older individuals in society (World Health Organization, 2019).

1.4 Organisation of the Thesis

Seven further chapters contribute to the narrative of this thesis. Chapter 2 consists of a literature review and examines relevant key themes: population ageing, oldest old, health and wellbeing in very old age, and societal challenges for an ageing population. Against this

backdrop, the concept of social exclusion is introduced, and the literature pertaining to individual and neighbourhood determinants and consequences of social exclusion is critically reviewed. The chapter concludes by highlighting the gaps in knowledge and the potential of this thesis to contribute to the field of public health, social science and gerontology, and also to policy and practice.

Chapter 3 outlines the theoretical and methodological approach to this thesis. The constructivist and critical gerontology theoretical frameworks, and the socio-ecological model of health and life-course perspective are explained. Insights from the theoretical framework and research models, as well as the literature review, are used to propose an initial conceptual framework that underpins the research conducted in this thesis. The methodological approach is then described, paying attention to the rationale for the combination of two philosophically different research approaches - quantitative and qualitative research designs. The typology of mixed methods to be used in this study is described, as is the method for integrating learnings from both studies.

Chapters 4 and 5 focus on the quantitative study. In Chapter 4, the sample, data collection and analysis methods are presented. A justification for how the main outcome and exposure measures were derived, is outlined. In Chapter 5 the results of the cross-sectional analysis are presented.

Chapters 6 and 7 focus on the qualitative study, Chapter 6 detailing the justification and evolution of the method for sampling, recruitment, data collection and analysis. Chapter 7 presents findings of the thematic analysis. Key dimensions influencing perceptions of social exclusion, based on the lived experience of respondents, are presented.

Chapter 8 provides an overview of the key findings from the thesis research. By integrating the findings of the quantitative and qualitative studies, a further overarching discussion on oldest old social exclusion is presented. A revised conceptual framework based on a greater understanding of the construct of social exclusion is offered. The overall conclusion of my thesis highlights the major contributions to knowledge and considers the implications of the findings for future research, policy and practice. In keeping with the constructivist nature of this thesis, my final reflections are summarised in an Afterword.

Chapter 2: Literature Review

This literature review is divided into four main sections. It provides a review of population ageing and introduces the notion of *oldest old* to create an understanding that old age is not purely defined by chronological age but is also socially constructed. In the next section, health and wellbeing in very old age are presented. The societal challenges of an ageing population are then explored. A summation is provided of the various definitions of social exclusion, forms of exclusion, those at risk, and the likely consequences. Finally gaps in knowledge are presented which position the main contribution of this thesis.

2.1 Literature Review Search Strategy

The literature on social exclusion, health and wellbeing, and ageing, is expansive and covers multiple disciplines. These include gerontology, public health, public policy, psychology, behavioural sciences, medicine, and more. Academic databases were searched using all relevant synonyms and combinations of the key terms of *social exclusion* and *old* to find literature covered in this chapter. Recognising the close relationship between social exclusion and other concepts such as loneliness, social engagement, social participation, social capital, social networks, and social inclusion, these terms were also searched. Recent gerontological work was reviewed to highlight emerging trends and knowledge gaps. Grey literature, including historical, theoretical and government reports were also read to help conceptualise the topic and identify gaps in the evidence base.

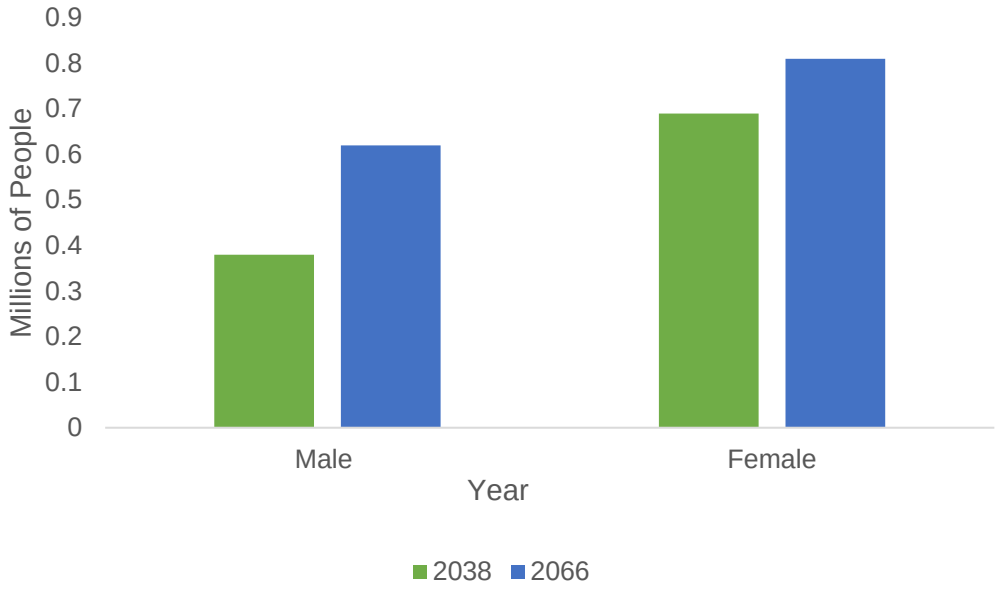
2.2 Population Ageing

Worldwide, the age profile of the population is changing. Due to falling fertility and mortality rates, the proportion of the world's aged population is increasing faster than any other group (Beard et al., 2016; World Health Organization, 2015). In Australia, the greatest proportional change is projected to be in the oldest age group: 85 years and older. In 2017, the number of Australians aged 85 and over was 493,000, with 62% of this population being women. By 2036, it is projected that people living past 85 will more than double, reaching approximately one million (Australian Bureau of Statistics, 2018c). It is probable that over

the next 30 years the proportion of men and women living beyond 85 years of age will become close to equal due to the narrowing gap between male and female life expectancy (Australian Bureau of Statistics, 2018c). The projected demographic changes among Australians aged 85 and older are illustrated in Figure 2.1.

Figure 2.1

Projected Australian Population Aged 85 and Older in 2038 and 2066, by Gender



Note: Adapted from the Australian Bureau of Statistics report on *Population Projections, 2020.*

2.2.1 Oldest Old

People surviving to very old age are often referred to as the *oldest old* (Kydd et al., 2020; Suzman, 1985) and as *oldest old survivors* in recognition that they have survived through many adversities (Poon et al., 2016). The literature and policy documents on oldest old use different age stratifications (Kydd et al., 2020). The World Health Organization (WHO) defines the oldest old as those aged 85 and older (World Health Organization, 2011), while the United Nations (UN) classify the oldest old as being aged 80 years and over (United Nations, 2019). The Australian Health Department report on those aged 85 years or older (Australian Institute of Health and Welfare, 2017). In this thesis, the oldest old refer to people aged in their 80s and 90s.

Biological age does not necessarily determine health and wellbeing, nor do all people of the same age function at the same level, however, as some researchers argue, it is useful to have a distinction for those in very old age. Unlike younger adults, it is common for the oldest old to experience significant disabilities and losses, including death of family and friends (Gilleard & Higgs, 2010). Of those Australians aged 85 years and older, 65% report profound or severe disability restriction and 33% have been diagnosed with dementia (Australian Institute of Health and Welfare, 2017). Furthermore, approximately one-half of people aged 85 and older live alone at home (Australian Institute of Health and Welfare, 2016a). It is also common that the oldest old require assistance with activities for daily living such as grooming, dressing, toileting, ambulating, and eating (Lager et al., 2015). The risk of poverty is also likely to be more pronounced among the oldest old. Compared to younger adults, the oldest old are more likely to have diminishing savings, and higher expenditures for medical and healthcare services (United Nations, 2015). These health, social and economic factors are often what distinguishes the lives of the oldest old from their younger counterparts aged in their 60's and 70's.

The notion of *cohort* is also relevant, based on the idea that different age groups or generations have lived through unique historical settings and have different experiences of ageing. In the context of this thesis, the oldest old are the generation born in the 1930's. This cohort were born during the Great Depression (1930's) and spent their youth through the Second World War (1939-45). It is possible that they may therefore have unique societal expectations and are perhaps more experienced at adjusting their lifestyle to scant resources than other cohorts of prospective oldest old (Piggott et al., 2016). It is likely that these contextual factors will shape and influence experiences and perceptions of social exclusion among the oldest old who are included in this thesis.

2.3 Health and Wellbeing of Oldest Old

Studies have identified several health differences between very old people and those from younger age groups. This section of the review includes findings that the contribution of low socio-economic positions (SEP) to poor health is less evident in very old age, and that among older people it is common for them to describe their health as very good, despite having disabilities and objectively measured poorer health, referred to as the *disability paradox* (Henchoz et al., 2008). In addition, women and men are likely to have differing

experiences of health and wellbeing in very old age (Australian Institute of Health and Welfare, 2017). These differences are important because they provide an additional rationale to examine the relationship between social exclusion and health and wellbeing among the oldest old, as a specific age group, and for men and women separately.

2.3.1 Convergence of Morbidity and Mortality in Very Old Age

Those of lower SEP, such as with lower income, education and wealth, are more likely to experience earlier onset of disease, death, and quicker loss of functioning (Dannefer & Lin, 2013). However, as people age, inequalities in morbidity and mortality from chronic disease narrow or converge partly due to death selection or survival bias (Draper et al., 2004; Turrell et al., 2007). For example, Barnett et al.(2012) analysed the relationship between multimorbidity and SEP (measured by area disadvantage) at different ages in Scotland. They found that across their whole sample, people living in more deprived areas were more likely to be multimorbid than those living in more affluent areas – apart from those age 85+ - where the results converged and then proceeded in the opposite direction (Barnett et al., 2012). That is, in very old age, morbidity in the lower socioeconomic group becomes increasingly closer to that in the higher socioeconomic group.

2.3.2 Disability Paradox

Despite the presence of disease and disability, individuals still may consider themselves healthy. The widening gap between an objective state of decline and a perception of good health has been described by some researchers as a *paradox* (Henchoz et al., 2008). Although it is likely that due to their advanced age, the oldest old face objective physical and social restrictions, many still retain or even improve their sense of wellbeing (Albrecht & Devlieger, 1999). Adaption and control over emotional and cognitive processes may help explain this finding (Ailshire & Crimmins, 2011). Others have suggested that the gap between perceived and objective health status may be accounted for by mechanisms of comparison – as some very old people have a favorable perception of their health because they are simply still alive, unlike many of their cohort (Henchoz et al., 2008).

2.3.3 Gender Differences in Experiences of Ageing

Gender related differences exist in lifetime social networks, work experience, and health behavior. These tend to cumulate in old age and influence health and wellbeing (Australian Human Rights Commission, 2009). Over the life-course, for example, women experience greater poverty than men, but men are more likely to be lonely (Kuh, 2014). The gender difference in poverty is likely to be a product of women's lower labour force participation and interrupted careers due to childbearing and childrearing. It has been argued that some pension systems fail to reconcile this gender bias (Wu & Gu, 2021).

In developed countries, including Australia, research has shown gender differences in population ageing with men dying younger, and women living with more comorbidities (Turrell et al., 2006). The mechanisms behind these gender differences are not fully understood because of the differences between health domain, illness severity, and survey reporting behaviour (Wu & Gu, 2021).

Regarding gender difference in status and power, some researchers argue that advanced age actually "de-genders", as older men and women experience loss of status and power. They deduce that in very old age, we come closer to "embodying a feminist utopia of gender equality" (Silver, 2003, p. 392).

2.4 Societal Challenges of Population Ageing

Another pervading element of population ageing is how society views the challenges or opportunities of population ageing. Discrimination based on age or *ageism*, and the debate about the financial burden of older people, and the necessity of *independence* are important in shaping cultural expectations of ageing (Phillipson, 2013).

2.4.1 Ageism

The term ageism was developed to describe the discrimination faced by older adults based exclusively on their age (Butler, 1975). The impact of ageism and the relationship with social exclusion are described by the World Health Organization (WHO):

> Ageism is widespread and an insidious practice which has harmful effects on the health of older adults. For older people, ageism is an everyday challenge. Overlooked for employment, restricted from social services and stereotyped in the media, ageism marginalizes and excludes older people in their communities. (World Health Organization, 2019)

Derogatory stereotypes of old age such as: "Sick, demented, frail, weak, disabled, powerless, sexless, passive, alone, unhappy and unable to learn" (Rowe & Kahn, 1997, p. 2) contribute to a prevailing social view that ageing is a time of loss, decline and demanding of care and a drain on resources. A Human Rights approach such as the proposed UN *Convention on the Rights of Older People* (United Nations, 2008) may help in shifting the cultural categorizing of older people as inferior. Understanding the processes leading to older people feeling socially excluded is likely to be a key aspect of challenging ageism.

2.4.2 Independence in Older Age

In recent years, Australian government rhetoric on healthy ageing has shifted from the "burden" of ageing to the "opportunity" of ageing. Opportunity in this context is what older people can contribute to society. This is seen mostly from an economic viewpoint such as ability to work to an older age, or capacity to volunteer (Australian Institute of Health and Welfare, 2014). This shift is occurring alongside increasing privatization and neo-liberal policies, typified by transferring economic control of services from the public sector to the private sector. Critics of this trend, especially critical gerontologists (see section 3.1.2), argue that care for the elderly has been relegated to family/neighbours or corporate enterprises, rather than positioned as a responsibility of the community or government (Biggs & Kimberley, 2013; Zinn, 2013). The WHO cautions against the assumption that older people have family or friends to provide support and care, as many do not (World Health Organization, 2017). Social exclusion is likely to increase if support is absent or difficult to access. For example, Plath (2008) writes:

> Doing things alone and relying on one's own resources can lead to doing without, frustration, safety and security concerns, loneliness, boredom, minimal resources, lack of opportunities, feeling burdened by responsibilities and feeling isolated from society. (p. 1365)

Even if programs and support are available, some older people actively avoid social opportunities. Goll et al. (2015) hypothesize that this may be because of fear of social rejection or exploitation, and fear of losing their identity as an independent person.

As the population ages, it is thought that there will be a large increase in the number of older socially excluded people due in part because of diminishing social relationships (due to outliving friends and family) and lack of societal care (due to neo-liberal policies). Discourse on the care and responsibility for the health and wellbeing of the oldest old, (many of whom live alone at home, have significant disabilities, and are women), remains chronically under-researched and rarely debated (Biggs & Kimberley, 2013; Silver, 2010; Zinn, 2013). Critically analysing the notion of independence and ageism may be important in understanding the context, causes and consequences of older age social exclusion. Subsequently, a critical gerontological perspective was used to inform this thesis.

2.5 Understanding Social Exclusion: Definition, Causes and Consequences

Complex inequity and poverty problems gave rise to the study of social exclusion, especially in France and the United Kingdom in the 1980s (Warburton et al., 2013). Policy workers argued that the concept of social exclusion broadly conceptualised disadvantage in ways that just focusing on poverty or economic disadvantage did not. The concept of social exclusion, for example, was developed to include aspects of social disadvantage - such as deficiencies in relationships and the influence of neighbourhood and social policy on social disadvantage - not just low income (Callander et al., 2012).

2.5.1 Policy Focus on Social Exclusion

As evident in the review of policy, the terms social inclusion and social exclusion are often used interchangeably in policy documents, with social inclusion viewed as the opposite to exclusion (Torres, 2018). There are some researchers however who warn against this approach. They differentiate social exclusion as concerned broadly with justice and discrimination and social inclusion as limited to a passive notion of ‘participation’ (Huisman et al., 2013). Notwithstanding the various theoretical debates, social inclusion and social exclusion appear to be useful concepts for understanding the potential disadvantage and lived experience of very old age.

There have been several policy responses to social in/exclusion and the related but distinct concept of loneliness, internationally, nationally, and locally. Social inclusion is central to many of the UN's Sustainable Development Goals (SDGs) which aim for social equity, economic growth and environmental protection. Relevant to oldest old social inclusion, the SDGs highlight the need for promoting equality, reducing poverty, ensuring good health and wellbeing, reducing disadvantage and creating inclusive communities.

A European collaboration of researchers implemented ROSENET (an acronym for Reducing Old Age Social Exclusion), in response to what they saw as the worrying population health issue of older age social exclusion. In 2018, the UK, introduced a whole-of-government response to loneliness included allocating funding for research and the appointment of a Minister for Loneliness, to tackle what Prime Minister May referred to as "the sad reality of life" (Guardian, 2018).

In Australia in 2007, under the federal Labour Government, social inclusion became a pillar for social policy. It was disbanded in 2013 following the election of the Federal Coalition Government, and is no longer an Australian government policy priority (Marston & Dee, 2015). Although there was an opportunity for social inclusion to address the broad determinants of health, including structural issues of social inequality (Carey et al., 2012), some researchers have argued that the policy focus was limited in scope. Their main critique was the economic and 'welfare to work' underpinnings that were the primary mechanism for promoting inclusion (Marston & Dee, 2015). Indeed the report *Social Inclusion in Australia: How Australia is Faring* was only applicable to those of working age - 15 to 64 years (Board, 2012).

In the Australian state of Victoria, a Commissioner for Seniors was appointed in 2013. In 2016, their office produced a report on isolation and loneliness called *Ageing is everyone's business*. As the title infers, the emphasis was to encourage a not-for-profit sector response to ageing. To support the non-government sector to address population ageing issues, the Victorian Government in 2019 established a Seniors Participation Grants program (worth up to $700,000) to reduce the risk factors that lead to vulnerability, disadvantage, social isolation and loneliness among older Victorian Adults (Department of Health and Human Services, 2019). Common in these reviewed policy responses is an underlying deficit view of very old age.

2.5.2 Social Exclusion Definition Relevant to Older People

It is widely regarded that there is no common definition of social exclusion (Torres, 2018; Van Regenmortel et al., 2016). This may be attributable to the term being used frequently in social policy, and, thus, definitions tend to vary from country to country due to differing social policies and structures. According to the Oxford English Dictionary social exclusion is defined as "exclusion from the prevailing social system and its rights and privileges, typically as a result of poverty or the fact of belonging to a minority social group" (Oxford English Dictionary, n.d.).

A systematic review (Van Regenmortel et al., 2016) and a scoping review of the social exclusion literature (Walsh et al., 2017) have been instrumental in progressing knowledge on older age social exclusion and culminated in a specific definition of old-age exclusion (relevant to people aged over 65):

> Old-age exclusion involves interchanges between multi-level risk factors, processes and outcomes. Varying in form and degree across the older adult life-course, its complexity, impact and prevalence are amplified by old-age vulnerabilities, accumulated disadvantage for some groups, and constrained opportunities to ameliorate exclusion. Old-age exclusion leads to inequities in choice and control, resources and relationships, and power and rights in key domains of neighbourhood and community; services, amenities and mobility; material and financial resources; social relations; socio-cultural aspects of society; and civic participation. Old-age exclusion implicates states, societies, communities and individuals. (Walsh et al., 2017, p. 93)

This definition brings attention to the multiple factors that influence social exclusion and is in alignment with the oldest old health and wellbeing perspectives that inform this thesis. In the context of the oldest old, factors that may increase vulnerability to social exclusion can be age related characteristics, including poor health; cumulative disadvantage where inequalities over the life course become more pronounced in later life; ageism; and inaccessible infrastructure (Jose & Cherayi, 2017; Macleod et al., 2017; Van Regenmortel et al., 2016). These processes can result in limited social relationships (quantitatively and qualitatively) and loss of social rights (Macleod et al., 2017), personal growth (Labonté et al., 2012) and belonging and participating in society (McLachlan et al., 2013; Walsh et al.,

2017). This definition is useful in conceptualising some core factors that might shape and circumscribe older age social exclusion; however, it was not specifically adopted for this thesis. Instead a definition that more closely aligns with a constructivist paradigm was chosen. This definition takes into consideration subjective appraisal and lived experience and is presented next.

2.5.3 Social Exclusion Definition that Guides this Thesis

> "Social exclusion incorporates how processes deprive people and communities access to opportunities to achieve well-being and security in the terms that are important to them" (Peace, 2001, p. 34).

The primary interest of this thesis is a complex social phenomenon, an abstract concept, that cannot be directly observed, but can perhaps be understood as a series of constructs or components. The comprehensiveness of Peace's definition incorporates several key components of older age social exclusion: notions of process, multi-dimensionality and subjective appraisal.

Processes refer to a series of actions or experiences that encompass social systems and societal attitudes as well as individual-level lived experience. The notion of "process" also implies people can move in and out of social exclusion across their life-course (Grenier & Guberman, 2009). Multiple life-domains can be implicated by 'access to opportunities' such as material resources, social status, access to information and presence of social relationships (Walsh et al., 2017).

Subjective appraisal refers to whether someone perceives themselves to be socially excluded (Saunder, 2015). It should be noted that subjective appraisal is not a key feature of Walsh and colleagues (2017) definition of older age social exclusion. However, a consideration that supports the importance of subjective appraisal being incorporated into a social exclusion definition, relates to the suggestion that different age groups may feel unique types of social exclusion. Middle aged adults, for example, may feel excluded from employment, older adults may feel the stigma of being a burden on society, and frail aged may feel excluded due to the financial costs of health care and ageism (Warburton et al., 2013). Warburton (2013) argues, the oldest old may also feel especially excluded due to "social distancing as the public shun them" (p. 6). This explanation of oldest old social

exclusion has many similarities to the concept of ageism (discussed in section 2.3.1) likely to be relevant to the lived experience of the oldest old and is subsequently important to capture. As Saunders (2015) explains: “Perceptions and feelings are critically important in providing information about people’s quality of life, and thus establishing whether and how people are excluded” (p. 146).

2.5.4 The Range of Causes and Processes Leading to Older Age Social Exclusion: Domains of Social Exclusion

As Walsh, Scharf and Keating (2017) outline in their definition, older age social exclusion is often conceptualised as occurring across multiple domains that are thought to be relevant to the experiences of older people. Each domain helps to explain an individual’s unique experience and vulnerability to social exclusion. Quantitative studies of social exclusion in older age typically investigate older age social exclusion across the domains of material resources, social relationships, civic activities, community participation, services and information, neighbourhood and environment (Macleod et al., 2017; Scharf et al., 2005b; Walsh et al., 2017). From a conceptual view, Grenier and Guberman (2009) include identity, and territorial exclusion as being particularly important for disadvantaged older people (Grenier & Guberman, 2009). Identity exclusion is closely related to ageism. Territorial exclusion shares similarities to environment and neighborhood exclusion. Table 2.1 summarises how social exclusion domains are commonly conceptualised and defined in the published literature. The domains of social relationships, neighbourhoods and community were considered relevant to community-dwelling oldest old and are discussed in more detail later in this chapter (see section 2.5.7).

Table 2.1

Domains of Older Age Social Exclusion

Domain	Definition
Service exclusion (Service provision and access)	Barriers to accessing public and private services (inside and outside of home) – cost, information, transport.
Socio-political exclusion (Civic participation)	Barriers to participation in cultural, education and political activities and decision making - limited collective power and political clout.
Exclusion from meaningful relationships (Social relationships and resources)	Exclusion from the development and maintenance of meaningful relationships and inability to draw on them for support, either through absence of networks, inability to access them, or rejection from them.
Economic exclusion (Economic, material and financial resources)	Objective and subjective lack of access to income or material resources required to meet basic needs including housing assets and pensions.
Environment and neighbourhood exclusion	Neighbourhood exclusion from facilities and resident environment, due to fear of crime and safety and little sense of community and belonging.
Identity exclusion (discrimination)	Prejudicial treatment and disregard of one's identity as well as the invisibility of groups within society.

Note: adapted from Macleod et al, 2017; Grenier & Guberman 2009; relevant to people aged over 65

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2.5.5 Social Exclusion and the Oldest Old

The lack of research on social exclusion among the oldest old limits the ability to make definitive statements about the experience and perceptions of social exclusion relevant to this cohort. There are very few studies focusing specifically on the oldest old, with most assuming that they are (by virtue of age) socially excluded. Even among the few older age social exclusion studies, there is not sufficient distinguishment among later age groups, with common age stratifications of 65+ or 75+. There are also some methodological limitations in studying social exclusion among this age group. The prevalence of Alzheimer's Disease and the ethical considerations around informed consent make the oldest old a difficult group to include in research. A further methodological limitation in studying social exclusion broadly (not specifically for the oldest old) is population selection bias. Researchers noted that it was often difficult to recruit excluded people because, by definition, they have few relationships and lack informal or formal support (Lager et al., 2015). It has been argued that most social exclusion scholars access samples of people who are relatively connected, healthy, or younger (Macleod et al., 2017). Underlying social exclusion research is the assumption that there are socially excluded people out there to be found. These methodological challenges and assumptions expose a gap in knowledge about social exclusion among the oldest old.

Nonetheless, previous quantitative studies, confirm a dose-response relationship between age and social exclusion – the older the person, the more likely they are to be excluded (Barnes, 2006; Heap & Fors, 2014; Key & Culliney, 2016; Kneale, 2012; Macleod et al., 2017). A UK study reports " as expected, the degree of exclusion experienced by people increased with age, with the oldest old (aged over 80), experiencing more exclusion overall and on each domain" (Macleod et al., 2017, p. 101).

Over time, there can be a compounding effect of social exclusion (Callander et al., 2012; Sacker et al., 2017). This is problematic, as older people are likely to have fewer opportunities and pathways to alleviate exclusion. This is attributed to limited or diminishing financial capacity and relationship support that "may also represent the outcome of disadvantages experienced earlier in the life-course"(Scharf et al., 2005b, p. 85). Age related characteristics such as health decline, death of partner and friends, and diminishing income following retirement, are likely to make the oldest old vulnerable to the impact of social exclusion – justifying the focus of this thesis on oldest old social exclusion.

2.5.6 Measurement of Social Exclusion

In defining and measuring a concept such as social exclusion, it is useful to explain what is included in the term and what it not. Common in quantitative older age social exclusion studies, is a summation of several proxy indicators to produce a single aggregate measure of social exclusion. In most instances a cut-off score is then assigned to produce a binary measure - excluded or not excluded. It is worth noting a more fluid understanding of people along a continuum of social exclusion, which is consistent with the notion of 'process', a key component of the social exclusion definition that guides this thesis.

The multi-dimensional nature (i.e. table 2.1) and conceptualisation of social exclusion as a *process* may be advantageous as it allows flexibility depending on the context; or a limitation as it poses significant challenges for measurement and evaluation. This has led Macleod et al. (2017) to conclude, "Social exclusion itself is not directly measurable … but its existence is inferred by the occurrence of other phenomena that act as indicators" (p. 5).

Similarly attributing indicators to measure social exclusion can be provisional and contested, as individuals may not perceive themselves to be socially excluded even though they report a particular attribute (Jehoel-Gijsbers & Vrooman, 2008). A further limitation of a sum-score approach is the inability to demonstrate multidimensionality - core to the social exclusion concept (Levitas, 2007). Conversely, an advantage of analysing each social exclusion measure separately is the ability to demonstrate how different domains impact on sociodemographic groups. The approach undertaken in the quantitative component of this thesis is to develop five indirect measures of vulnerability to social exclusion on a continuum (scale) which were analysed separately.

In summary, conceptually it is difficult to define and measure social exclusion since social exclusion is a social phenomenon and an individual experience, which is highly subjective. As the myriad of definitions suggest social exclusion is both objective - reflecting peoples' position and place in society independent of how they see themselves, and subjective - reflecting how people view their own place in society. Both are arguably valid and important; but it could be that perceptions matter most, because if a person is

objectively excluded from the social system but they do not perceive themselves to be, then the former may be irrelevant to them as an individual[1].

An important consideration is that the conceptualisation and measurement of older age social exclusion is predominately academic. With the exception of some earlier work (Richardson & Le Grand, 2002) and research among those living in rural areas (Walsh et al., 2019) the conceptualisation, perception, and definition of social exclusion provided by older people themselves is an underexplored area and a topic that forms the focus of the qualitative component of this thesis.

Previous Quantitative Approaches to Measuring Social Exclusion in Older Populations

Based on my review of the literature (peer-reviewed and grey) there has been very little quantitative research undertaken on social exclusion among the oldest old. Key and Culliney's (2016) article is one such exception. Using data from the United Kingdom's *Understanding Society Survey*, they conceptualised social exclusion as occurring on the two dimensions they thought to be relevant to older adults: exclusion from services, and exclusion from social contact. Exclusion from services was measured by respondents answering 'no' to the question 'Are you able to access all services such as healthcare, food shops or learning facilities when you need to?' Exclusion from social contact was measured by respondents reporting that they had difficulty visiting family. Using these measures, they found that people aged 85 and older were significantly more likely to suffer from social exclusion on both domains (services and social contact) than people aged 65 to 84. The social exclusion measures captured only one aspect of social exclusion (i.e. going out), which leaves gaps in understanding the contextual, interpersonal and social aspects likely to influence experiences and perceptions of social exclusion among the oldest old.

In the limited available literature, various approaches have been used to investigate older age social exclusion, in terms of study designs, definition and measurement of social exclusion (Levitas, 2007; Macleod et al., 2017; Walsh et al., 2017). Some researchers looked for socioeconomic risk factors that lead to social exclusion (Barnes, 2006; Kneale,

[1] On the other hand, there could be some negative consequences of being outside of the prevailing social system even if you don't perceive yourself to be.

2012), whereas others use proxy indicators to actually denote social exclusion (e.g. Key & Culliney, 2016). A recent review of social exclusion literature (not limited to older age) found that the latter approach is more common (Van Regenmortel et al., 2016). A summary of social exclusion research examining the causes and processes of social exclusion among older people from English speaking countries is discussed below. In each case a threshold was defined, below which if an individual fell, they were regarded as socially excluded. The indicators and thresholds are presented in Table 2.2.

In Australia, Riyana & Peng (2015) used *HILDA* survey data from adults aged 55+ and examined the association between individual level characteristics including age, gender, country of birth, education, housing tenure, labour market history, income, health status, living arrangement and carer status, and social exclusion. Social exclusion was conceptualised as being excluded in two or more of four domains; (i) material resources, (ii) participation in work and community, (iii) social support and (iv) community engagement. The cut-off scores denoting exclusion from each domain and overall assessment of social exclusion were assigned by the authors and varied for each domain (see Table 2.2). Their findings suggest that lower education, lower income and poor health were associated with their composite measure of social exclusion. The overall proportion of older people aged over 55 reported as socially excluded was 9.8% (Riyana & Peng, 2015).

In the United Kingdom there have been several studies that have examined the association between individual-level determinants and social exclusion. A study by Macleod, et al. (2017) using *Understanding Society* survey data of people aged 64+ conceptualised social exclusion as occurring on two domains: limited social contact, and limited access to services. The exclusion from social contact domain consisted of objective measures such as living alone and not visiting friends outside of home. For each individual, indicators were added together and a threshold of excluded/not excluded was assigned. Individuals falling in the bottom 25% were deemed excluded. They examined the association between gender, age, ethnicity, education, marital and job status and social exclusion and found that women were more excluded than men.

Kneale (2012), and Barnes et al. (2006) analysed a different data set, the *English Longitudinal Study of Ageing,* among people aged 50 and older. Barnes and colleagues (2006) measured social exclusion over seven domains, which was also adopted by Kneale. In this study the domains of social exclusion included social relationships, cultural activities, civic activities and access to information, local amenities, decent housing and public transport, financial products, and common consumer goods. Barnes et al. (2006) constructed

a minimum threshold for each dimension (in the bottom 10%) and considered individuals to be multiply excluded if they were excluded on three or more domains. The proportion of females reported as excluded in 2008 was 5.9% and for males it was 5.6%. Kneale (2012) analysed the association between determinants such as age, gender, ethnicity, living arrangements, number of children, education, health, income and housing and social exclusion, and found that older people living in rented accommodation and/or who live alone were significantly more likely to be socially excluded (Kneale, 2012).

Focusing on social exclusion in deprived neighbourhoods, Scharf and colleagues surveyed people aged 60 + in three disadvantaged English cities. They conceptualised social exclusion as comprising of exclusion from material resources, social relations, civic activities, and from basic services and neighbourhood exclusion. The proportion of people being excluded on more than one domain was 36% and was significantly more common with respondents from an ethnic origin, lower educational status, from social (public) housing and those reporting poorer health (Scharf et al., 2005b).

In summarising Table 2.2, it can be seen that social exclusion measures were derived differently depending on available indicators from each dataset, hence the lack of consistency in the conceptualisation and measurement of social exclusion. This makes the comparison of studies difficult, and analysis of trends problematic. Not to mention a lack of specific focus on the oldest old.

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Table 2.2

Measurement of Social Exclusion in Older Age: Indicators and Thresholds

			SOCIAL EXCLUSION DOMAIN			
Author	Country	Age of sample	**Services**	**Social Relationships**		
Key & Culliney, 2016 (SE = excluded in 1 or more domains)	United Kingdom	65-84; 85+	Are you able to access all services such as healthcare, food shops or learning facilities when you need to? (excluded = no)	Do you have difficulty vising family when need to? (yes & sometimes = excluded); Do you go out socially ? (excluded = no)		
Riyana & Peng, 2015	Australia	50 and older	**Material**	**Economic and Social Participation**	**Social Support**	**Community**
(SE = excluded in 2 or more domains)			(excluded = presence of at least 1)	(excluded = all indicators true)	(excluded = half or more of indicators true)	(exclusion = true if choose any)
			Could not pay electricity, gas or telephone bills	Not worked for wage or salary	I don't have anyone that I can confide in	Not feeling part of your local community
			Could not pay the mortgage /rent	Not worked in own business	I seem to have a lot of friends (disagree)	Do not feel safe
			Asked for financial help from friends or family	Not enrolled in a full-time course	I often need help from other people but can't get it	Dissatisfaction with the neighbourhood
			Pawned or sold something	Not enrolled in a part-time course	I enjoy the time I spend with the people who are important to me (disagree)	
			Went without meals	Not an active club member	I often feel very lonely	
			Asked for help from welfare/community organisations	Contact with friends/relatives once a month or less	When I need someone to help me out, I can usually find someone (disagree)	
			Could not raise $2,000 in emergency within a week.	Not volunteering	When something's on my mind, talking with the people I know can make me feel better (disagree)	
			Was unable to heat home		I have no one to lean on in times of trouble	
					There is someone who can always cheer me up when I'm down (disagree) & People don't come to visit me as often as I would like	

Table 2.2 continued

Measurement of Social Exclusion in Older Age: Indicators and Thresholds

Author	Country	Age	Social Exclusion Domain			
MacLeod et al., 2017	United Kingdom	64 and older	**Service Access and Provision**	**Civic Participation**	**Social Relations and Resources**	
			(assigned a score 0-5)	(assigned a score 0-5)	(assigned a score 0-5)	
			Does not have access to basic services	Does not join in the activities of organisations on a regular basis	Lives alone	
			Medical facilities fair or poor	Participates in few types of sports, leisure, cultural activities	Low frequency of contact with child living outside home	
(excluded if bottom 25%)			Access to sport or leisure facilities difficult or very difficult	Participates less frequently in sports, leisure, cultural activities	One or no close friends	
			Shopping & leisure facilities fair or poor	Does not volunteer	Does not go out socially or visit friends	
Kneale, 2012	United Kingdom	50 and older	**Local Amenities**	**Civic Activities and Information**	**Social Relationships**	**Cultural Activities**
(excluded if bottom 10%)			(excluded if >1)	(excluded if none of these)	(exclusion = scores less than 3.5 out of 10.5)	(excluded if wanted to go out and had not been on a holiday)
			Difficulty accessing: bank, post office, shops, supermarket, health care (SE if >1 indicator)	Member of: political party, neighbourhood watch, church; use internet, read paper, volunteer (excluded if none of these)	Quality & presence of: partner, children, friends	Frequency and satisfaction with: cinema, theatre, museum/gallery, eating out, holiday
			Common Consumer Goods	**Decent Housing and Transport**	**Financial Products**	
			(excluded= less than 4 indicators)	(excluded=2 or more problems)	(excluded = less than 2 item)	
			television; cd player, freezer; washing machine; microwave oven; mobile phone; central heating	Public transport is expensive, unreliable; Housing: noisy neighbours, rising damp, pests	Short term i.e. saving account; medium term: shares; long term: pension, life insurance	

Table 2.2 continued

Measurement of Social Exclusion in Older Age: Indicators and Thresholds

Author	Country	Age	Social Exclusion Domain			
Scharf et al., 2005	United Kingdom	60 and older	**Material Resources**	**Civic Activities**	**Social Relations**	**Neighbourhood**
(2 or more domains = multiple exclusion)			Material poverty (lacking two or more necessities) Multiple deprivation (deprived on three or more characteristics) **Service** Has restricted use of at least three of four basic services in the home Has not used at least two of three key services beyond the home	Non-participation in civic activities; Never attends meetings of religious / community organisations	Social isolation (isolated on two or more characteristics) Loneliness (severely or very severely lonely) Unable to participate in common activities	Expresses very negative views about the neighbourhood Would feel ‘very unsafe’ when out alone after dark

2.5.7 Social Exclusion Domains Considered for this Thesis

This section discusses several domains of social exclusion likely to be most pertinent to the oldest old: social relationships, neighbourhood and community. This adjacent literature highlights key aspects of social exclusion that facilitate or inhibit social exclusion, but are not social exclusion per-se. For the purpose of this thesis the domains are viewed as indirect measures of social exclusion.

Social Relationships as a Domain of Oldest Old Social Exclusion

Social relationships have been found to inhibit older age social exclusion, reflecting the importance ascribed to the ability to engage in meaningful relationships with others (Scharf et al., 2005b). Exclusion from social relationships is probably most closely aligned with the focus on loneliness and isolation of some recent government policies. Whether an individual can sustain relationships, however, can influence their ability to overcome other aspects of social exclusion. The social support that this social relationships domain captures is an essential aspect for older people to maintain their sense of independence (Kneale, 2012). Previous quantitative studies have found that lack of relationships (objective measure of social encounters), influenced the risk of becoming socially excluded in older age (Barnes, 2006; Jehoel-Gijsbers & Vrooman, 2008; Key & Culliney, 2016; Kneale, 2012) and exclusion from social relationships is more pronounced among the oldest old. Barnes et al. (2006), for example, found that the oldest old (age 80+) were more likely to be excluded from social relationships than other younger age groups. Their findings are consistent with Jehoel-Gijsbers and Vrooman (2008), who found that among elderly Europeans, the oldest age group (75+) reported the most exclusion from social relationships.

Several quantitative studies have also demonstrated the importance of social relationships for health and wellbeing among the oldest old (Cherry et al., 2013; Cresswell-Smith et al., 2018; Krause, 2007). Higher levels of social engagement, measured by hours outside of the home, was associated with better self-reported general health (Cherry et al., 2013) and the oldest old (aged 80 and over) with larger social networks had better self-reported mental health (Cresswell-Smith et al., 2018).

In addition, the quality of the social relationship has been found to be significantly associated with life satisfaction. Among Swedish people over the age of 80, for example, quality of relationships was the most important factor associated with life satisfaction,

whereas the frequency of social contact was not (Berg et al. 2006). Positive feelings of life satisfaction may indirectly inhibit feelings of social exclusion among the oldest old, yet from my review of the literature this has not been widely studied in quantitative research.

Qualitative studies also report themes of advancing age and declining social relationships (Cloutier-Fisher et al., 2011; Duppen et al., 2019). This is due to factors such as shrinking social networks (death of family and friends), declining health and mobility (sensory and cognitive function), residential changes (Cornwell, 2015; Duppen et al., 2019; Gong, 2016), and age discrimination (Rippon et al., 2014).

Research investigating older people's views have found that social engagement, meaningful relationships, and being valued are important dimensions of health and wellbeing (Cherry et al., 2013; Martin et al., 2015), which is likely to be conducive to reduced feelings of social exclusion. More nuanced contributions from qualitative inquiry have found that social relationships can have negative consequences (Dow et al., 2019), a good quality relationship often has a reciprocal element (Breheny & Stephens, 2009), and also that relationship quality, over relationship quantity, matters (Bruine De Bruin et al., 2019). These accounts of oldest old perspectives highlight that perceived supportive social relationships are salient determinants of life satisfaction and are likely to be among the factors that facilitate or impede social exclusion among the oldest old.

Neighbourhoods as a Domain of Oldest Old Social Exclusion

Neighbourhoods can influence the degree an older person experiences or perceives social exclusion, especially around influencing social participation and sense of belonging. The neighbourhood environment is an important domain of social exclusion for older people as they age; for older persons that have lived in the same area for a long time the immediate neighbourhood holds memories; a greater amount of time is spent closer to home; and there is an increased reliance on neighbours for support (Krause, 2006; Phillipson, 2007). There is evidence that neighbourhood characteristics influence social participation of older adults (Breeze et al., 2005; La Gory, 1985; Portacolone et al., 2018; Prattley et al., 2020). Low levels of trust, support, and participation are reported by older people living in socioeconomically disadvantaged neighbourhoods (Goll et al., 2015; Prattley et al., 2020). These findings are also reinforced by other research indicating that oldest old from socio-economically disadvantaged backgrounds tend to curtail their engagement or movement within their neighbourhood. This diminishes the oldest old's access to resources, information

and support (Goll et al., 2015), conceptualised as factors that can contribute to experiences and perceptions of social exclusion.

Lupton and Power (2002) suggest that "[p]oor neighbourhoods are, in a sense, a barometer for social exclusion" (p. 140). As inferred by the literature, social exclusion is a complex social phenomenon and as such is unlikely to be explained well by a simple causal relationship. Neighbourhood-level characteristics are likely to be one significant factor among many others that facilitate or inhibit older age social exclusion. There is a dearth of quantitative data and qualitative accounts that counter this essentialist view that people living in poor neighbourhoods are socially excluded.

Community Disengagement as a Domain of Oldest Old Social Exclusion

Community disengagement is an important aspect of social exclusion, as it implies an inability to fully access the cultural fabric of society(Barnes, 2006). Vulnerability to community disengagement may be due to age related factors such as poor health, inability to afford cultural activities, and lack of age appropriate and accessible local activities. Quantitative social exclusion studies of older adults often consider the role of exclusion from community participation, also referred to as civic participation (Barnes, 2006; Kneale, 2012; Macleod et al., 2017). For example, Macleod et al.'s (2017) United Kingdom study of older adults (65+), compiled an index of civic or community participation comprising of: engagement in the activities of an organisation, participation in cultural, sport or leisure activities, and volunteering (see Table 2.2). They found that the oldest old (90+) were the most excluded age group.

Population studies of adults of all ages report that those with lower SEP are less socially active in their communities relative to those with higher SEP (Baum et al., 2000; Wilkinson & Pickett, 2010). Participating in community life not only strengthens social cohesion, but it can also provide mental stimulation and purpose, and help reduce social isolation and physical and mental decline of older adults (Cherry et al., 2013; Cramm & Nieboer, 2015).

An area of investigation that some researchers say is absent, is the exploration of the very notion of *community* for older people (Provencher et al., 2014). An important consideration is the diversity of older people's needs, capacities and expectations in relation to their neighbourhood and community (Provencher et al., 2014). It is likely that the oldest old have different expectations and use their community differently to their younger

counterparts. Affordable and accessible local shops and services may benefit those with limited mobility and income; in-home support and medical services may be important for housebound oldest old (Keating & Eales, 2013). From my review of the literature I found no quantitative social exclusion research that examined these latter indicators, which are likely to be pertinent to experience of social exclusion among the oldest old.

2.5.8 Determinants of Social Exclusion Among the Oldest Old

> "The risks of social exclusion are not evenly shared but concentrated in the poorest individuals and communities" (Bradshaw, 2004, p. 103) .

The above quote was among the concluding remarks from a review of social exclusion literature focusing on determinants of social exclusion (Bradshaw, 2004), yet the area of social exclusion research seems to rest upon assumptions rather than evidence. Notwithstanding this critique, Bradshaw's review summarises that the experience of social exclusion is likely to differ depending on individual factors (e.g. gender, ethnicity, wealth and household composition), neighbourhood factors (e.g. socioeconomic position, built environment, crime and safety) and socio-cultural factors (e.g. attitudes and values, policy and social change). These individual and neighbourhood-level factors are discussed in more detail in the following section.

Gender

It is probable that women and men in the community experience social exclusion in different ways and have divergent expectations of social inclusion because; (i) women live longer and have poorer health in old age compared with men; (ii) women and men participate in economic and social life differently; (iii) there are gender differences in caring responsibilities; (iv) the social relationships that men and women develop and maintain differ (Australian Institute of Health and Welfare, 2017) and (iv) experiences of neighbourhoods are also likely to differ by gender (Ghani et al., 2016; Walker & Hiller, 2007).

Findings on the association between gender and social exclusion are mixed. Some researchers report that social exclusion is more common for women than men in older age groups (Barnes, 2006). However, other researchers argue that the differences are likely to be

a product of gender bias, because women tend to outlive men (Kneale, 2012) and are more likely to be widowed and living alone at older ages (Dykstra & de Jong Gierveld, 2004).

Gender differences may also be a consequence of reporting differences between men and women: women tend to be more disclosing and open when discussing social and health-related issues, whereas men tend to be more closed and withholding: this, in part, is why there are gender differences in self-reported health (Ko et al., 2019) and loneliness (Brittain et al., 2015).

Household Composition

Living alone is often cited as a risk factor for social exclusion. However, living alone should not be assumed to lead to social exclusion, as some older people have good friendships and supportive neighbours that may reduce some aspects of social exclusion (Carr, 2019). Similarly, living with a partner or family member where the relationship is abusive or poor quality may lead to feelings of social exclusion (Dow et al., 2019). Although research findings are inconclusive over the effect of living alone and social exclusion the combination of living alone and being either individually or socioeconomically disadvantaged can reinforce exclusion. Milliband (2006) suggests, “Living alone in itself isn’t a maker of social exclusion, but in conjunction with poverty, worklessness or health problems, living alone can reinforce individual exclusion from society” (Milliband in Levitas, 2007, p. 50).

Individual-level Socioeconomic Position (SEP)

Low SEP is often referred to as individual disadvantage and is likely to have an indirect relationship with social exclusion. Low SEP includes factors such as educational attainment, occupation and income. Low SEP contributes to old age poverty which creates financial barriers for social participation. It is well established that lower SEP is a major precursor to functional and cognitive decline, earlier mortality and shorter life expectancy (Marmot, 2004). As reviewed earlier (section 2.2.2), however, socio-economic inequalities in morbidity and mortality narrow among people in their 80s and 90s. Nevertheless, those with lower SEP report fewer networks, lower levels of support, and are less socially active relative to those with higher SEP (Baum et al., 2000; Wilkinson & Pickett, 2010). A US study found that older people with lower SEP for example, were more likely to lose social relations

through life events such as death and relationship breakdown. Additionally they were less likely to foster new relationships, relative to older people with higher SEP (Cornwell, 2015). Deficiencies in social relationships are conceptualised as being a key component in influencing social exclusion (see section 2.4.7).

Culturally and Linguistically Diverse (CALD)

CALD background is considered to be a determinant of social exclusion through an indirect pathway of low SEP and disrupted social support (Federation of Ethnic Communities' Councils of Australia, 2015). CALD older adults account for approximately 18% of Australians aged 80 years and over (Australian Institute of Health and Welfare, 2017). In general, older people from CALD backgrounds have lower SEP compared with the Anglo-Australian population. This is mostly attributed to lower workforce participation and wages (Federation of Ethnic Communities' Councils of Australia, 2015). Migration across boundaries can also disrupt social and support networks. Developing new social networks is difficult if compromised by lack of language fluency. In addition, cultural differences in expectations and norms in relation to ageing are likely to differ between people born in Australia or overseas.

Disability

Both age-related disability and long-term disability are relevant with a broad conceptualisation of social exclusion. Over the life-course, disability can impede educational attainment and workforce participation (Clarke & Latham, 2014), which may hinder attainment of material resources and social networks. Disability, impairment or pain, can precipitate a decline in the ability to maintain usual lifestyles including social interaction (Burholt, Windle, et al., 2017). Age-related impairments such as hearing, and vision loss can negatively impact on successful communication. Furthermore the stigma associated with incontinence, more common in older than younger ages, can lead to curtailing social interaction (Hawthorne, 2008). Conversely it is worth noting that if people with disabilities feel socially supported and are using social resources, they might not consider themselves as socially excluded.

Neighbourhood-level Determinants of Social Exclusion Among the Oldest Old

Neighbourhood characteristics can promote or hinder experiences and perceptions of social exclusion by older individuals (Gardner, 2014). Characteristics such as proximity and accessibility to neighbourhood assets such as community services and recreational facilities (Gardner, 2011) and perceived safety, contribute to whether an older person experiences or feels socially excluded (Garoon et al., 2016). Ageing in place, in the immediate neighbourhood is very important, especially if there are mobility or transportation issues which prevent movement to other neighbourhoods (Portacolone et al., 2018). Perceived criminal activity, structural deterioration of neighbourhood buildings and public spaces may contribute to fear induced social withdrawal or exclusion among older individuals who are ageing in place (Kim & Clarke, 2015; Smith, 2009).

The stigma and discrimination faced by people residing in disadvantaged neighbourhoods may also contribute to social exclusion experienced over the life-course. Neighbourhood discrimination may impact on employment and learning opportunities as well as access to health care (Arthurson & Jacobs, 2003). Living in government housing (public housing) is commonly reported as a risk factor for social exclusion (Stone & Reynolds, 2012), perhaps because public housing are the most visible concentrations of neighbourhood disadvantage (Arthurson & Jacobs, 2003).

In Australia, community dwelling older people aged 85 and over are disproportionally represented in public housing (McNelis, 2007). Furthermore, the demand for public housing from this age group was predicted to double over the decade 2008 to 2018 (McNelis, 2007). Australian housing services report a trend of older renters, who can no longer afford private rental, therefore needing to transition into public housing (Cigdem, 2015). If this trend continues many community dwelling adults over the age of 85 will “age in place” in public housing and may be vulnerable to some extent to aspects of neighbourhood exclusion.

2.5.9 Macro or Structural Level Determinants of Social Exclusion Among the Oldest Old

Macro or structural level determinants often refers to the socio-cultural context in which people live. It comprises attitudes and values of the people and institutions with which they interact. It can include aspects such as policy and social change. A number of studies comparing European states have confirmed a link between progressive welfare regimes and lower rates of social exclusion (Jehoel-Gijsbers & Vrooman, 2008; Lee, 2020; Ogg, 2005).

Some scholars warn of widening of inequalities and subsequently increased social exclusion (Barry, 1998; Scharf et al., 2005b). Poverty and disadvantage are key characteristics in the construct of social exclusion (Grenier & Guberman, 2009). Relative powerlessness is a common attribute of excluded groups and widening inequality makes this worse. Inequalities and relative powerlessness influence distribution and access to goods and services, which led to health differences and ultimately differences in life expectancy and quality of life (Marmot, 2004).

More and more people find themselves with insecure employment and housing and are dependent on welfare, widening the gap between poor and wealthy. Several Australian studies have found an economic divide among older people (Faulkner, 2007; Kendig, 2000; Olsberg & Winters, 2005). This trend is also observed overseas (O'Rand, 2006). For example, the economic disparity between homeowners and non-homeowners (who pay rent or mortgages) and among those who can access superannuation compared to those dependent on income provided by government pensions. Government economic policies such as superannuation and older age pensions are important in reducing socioeconomic disparities (Lee, 2020).

Another changing trend is the role of families in providing informal support to their ageing parents. Geographic dispersion of families, more women in the workforce, having children later in life and associated time pressures, means familial support for older parents is often less available today than in the past (Walker & Hiller, 2007)[2].

2.5.10 Health and Wellbeing Consequences of Social Exclusion for the Oldest Old

In summarising older age social exclusion literature, it seems that the overarching consequences of social exclusion relates to deprivation and increasing inequalities. For the oldest old this appears to impact negatively on health and wellbeing making older age social exclusion a serious public health issue.

Through a range of complex pathways, social exclusion (including social isolation and loneliness) has been linked to an increased risk of adverse health outcomes including;

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[2] Closing state and national boarders as is seen in Australia, to curtail the spread of COVID19, impacts on the ability for geographically dispersed families to support one another, including elderly parents.

Alzheimer's disease and dementia, obesity, stroke, heart disease, high blood pressure, sleep disorders, diminished immunity, alcoholism, depression and suicide (Cacioppo et al., 2015; Valtorta & Hanratty, 2016). One possible pathway is that social exclusion reduces social interaction, and contributes to social isolation, which may influence health either directly through biological responses to stress, or indirectly through behaviour such as social withdrawal.

People lacking social engagement and social support, are more likely to use emergency services and be admitted to residential aged care than non-isolated people (Elias & Lowton, 2014). It has been suggested that the over-representation of referrals to nursing homes among socially isolated older people is a reflection that there is insufficient support at home. Older adults admitted to nursing homes straight from hospital, describe the experience as terrifying (Koppitz et al., 2017). On the other hand, older people with higher perceived social support display increased use of preventive healthcare services. This may offset the burden of rising healthcare costs and also enhance quality of life (Koppitz et al., 2017).

To date, there are few descriptive studies of Australian community-dwelling oldest old (Australian Institute of Health and Welfare, 2015) but some studies among older adults (not oldest-old per-se) consistently report the following themes: losing control and choice, the worry about being a burden, importance of reciprocation of support, isolation, stigma or fear of being perceived as lonely, fear of crime, losses (people and health), importance of meaningful relationships, trusting neighbours, and sense of belonging and being valued (Byles et al., 2014; Morris, 2009; Russell & Porter, 2003; Stanley et al., 2010; Victor et al., 2005; Walker & Hiller, 2007). These themes share many similarities to oldest old social exclusion.

2.6 Summary and Gaps in Oldest Old Healthy Ageing and Social Exclusion Literature

It is widely accepted that there is a global trend of population ageing attributed to a declining fertility rate and increasing life expectancy. Coupled with this trend, is the prediction of increasing social exclusion among ageing people and consequently ill health and poor wellbeing. Although social exclusion has been defined in numerous ways it is typically conceptualised as being associated with disadvantage and deprivation. For very old people there are concerns about material and economic resources, and social participation which are likely to diminish overtime. Definitions emphasise that older age social exclusion is concerned with the processes that leads to social exclusion, as well as the actual state of being socially excluded. Furthermore, perceptions of social exclusion – that is whether you feel socially excluded – influence health and wellbeing.

The review of social exclusion literature revealed the intersecting ways that oldest old are vulnerable aspects of social, neighbourhood and community exclusion. The literature draws attention to life-course factors, such as older age health decline and death of family and friends, and points to specific population groups at greater risk of social exclusion; oldest old, women, those living alone, CALD, people with disability and people of low SEP, such as those living in public housing.

2.6.1 Limitations of Previous Research

Several methodological limitations were observed in the literature. The most obvious is the lack of agreed definition and conceptualisation of social exclusion. This leads to many different forms of measurement – each designed to capture a different conceptualisation. The lack of consistency also makes the comparison of studies difficult and analysis of trends problematic (Walsh et al., 2017). There are only a small number of studies with participants in the oldest old years. Another methodological limitation identified was population selection bias – with researchers accessing samples of people who are relatively connected, healthy, or younger (Lager et al., 2015; Suzman, 1985). These methodological challenges expose a gap in knowledge about social exclusion and the oldest old.

Investigation into the relationship between older age social exclusion and health is most commonly explored using population based quantitative studies. While such approaches

are useful in understanding the relationship between social exclusion and health and whether there are differences based on individual or neighbourhood-level characteristics, they do not address the complexities that underlie individual level perceptions and experiences of social exclusion and health. Furthermore, how oldest old themselves define social exclusion is largely missing from extant research.

2.6.2 Directions for Further Research

As health and wellbeing, and ageing, are recognised as multifaceted constructs, examining this through a social exclusion framework emerges as an innovative strategy. Because there is little social exclusion research that compares oldest old adults to other younger adults, it makes it problematic to proclaim that older adults are indeed more likely to experience social exclusion. Still, it is likely that the oldest old will be more vulnerable to aspects of social exclusion as a result of their age. A better understanding of the lived experiences of potentially vulnerable oldest old that this thesis provides, makes an important contribution to the knowledge about life-course perspectives of ageing.

2.6.3 Research Questions

Six specific questions guided the research. These were addressed in two research studies: a quantitative and qualitative study.

Quantitative Study. Low socio-economic position and neighbourhood disadvantage are associated with deterioration in health (Read et al., 2016). It is reasonable to expect that social exclusion may intensify poor health. Currently, little is known about the epidemiology of social exclusion amongst the oldest old. The following research questions aimed to fill this gap by exploring and identifying:

1. **What is the association between individual- and neighbourhood-level sociodemographic factors and social exclusion?**
2. **What is the association between individual- and neighbourhood-level sociodemographic factors and health?**
3. **What is the association between social exclusion and health?**

4. **What contribution does social exclusion make to the association between individual- and neighbourhood-level sociodemographic factors and health?**

***Qualitative Study*.** A key assumption based on previous literature is that the oldest old are socially excluded by virtue of their age. However, qualitative inquiries exploring perceptions of social exclusion of oldest old are scarce. Furthermore, very little is known about the preferences and social engagement practices of community-dwelling oldest old (Australian Institute of Health and Welfare, 2015; Neville et al., 2018), and even less about those who are considered vulnerable and live alone (Korkeila et al., 2001). Thus, there is a key gap in the knowledge base about perceptions of social exclusion and about how this group engages socially and how society engages with them. The following research questions sought to address this research gap:

5. **What are the perceived factors that exacerbate or protect against social exclusion among oldest old who live alone in public housing?**
6. **To what extent do this group perceive themselves to be socially excluded?**

The integration of the findings of these six research questions has potential to increase health and wellbeing in very old age through policy, practice, advocacy, and further research. The significance of the proposed research is summarised below:

- Scholarly research resulting in advances in our comprehension of the factors that influence perceptions of social exclusion amongst the oldest old, a group often excluded from research.
- Expanding knowledge about links between ageing, social exclusion, and health and wellbeing.
- Policy, advocacy, and practice recommendations through exploration of the lived experience of potentially vulnerable oldest old, and barriers to, and enablers of, social inclusion.

The next chapter builds on and extends the literature reviewed in this chapter by outlining the theoretical and methodological approach used to guide this thesis.

Chapter 3: Theoretical and Methodological Approaches to Investigating Social Exclusion Among the Oldest Old

This chapter discusses the key pillars of the theoretical and methodological approaches used in addressing this thesis' research aim, namely, to examine the context, causes, and consequences of social exclusion among the oldest old. The chapter highlights the compatibility and complementary nature of the wide array of theoretical and disciplinary perspectives drawn upon from the literature to produce a proposed initial conceptual framework. The purpose of the framework is to guide the research questions and analytic approach. The chapter is divided into three sections. Section one outlines the theoretical framework, section two describes a proposed conceptual model stemming from the framework, and in section three the methodological approach to addressing the study's research questions is presented.

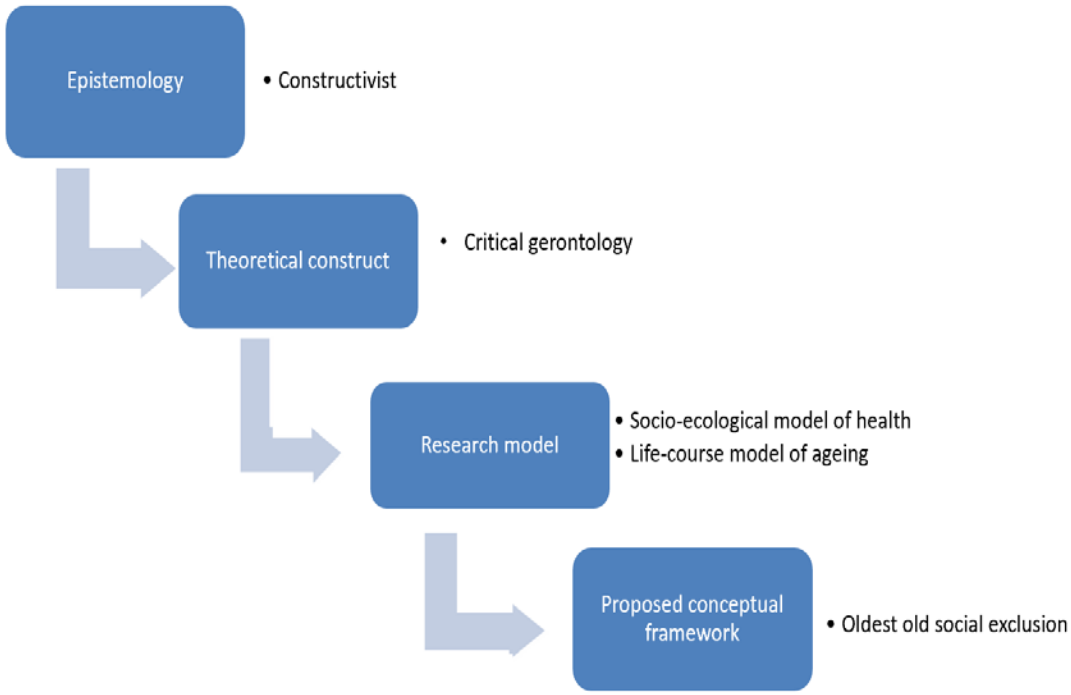
3.1 Proposed Conceptual Framework for Understanding Social Exclusion Among the Oldest Old

There is great potential for adopting multidisciplinary approaches for understanding complex social phenomena (Baum, 1995). Consequently, a conceptual framework for this thesis synthesized various theoretical and research perspectives on social exclusion among older age people. A constructivist paradigm guided the position that social exclusion is constructed through social processes and interactions. A critical gerontology theoretical perspective leads to a critique of conventional perspectives to develop new approaches to advance our understanding of the relationship between social exclusion and health (Biggs et al., 2003; Estes, 2001; Phillipson, 2013). The socio-ecological model of health (Whitehead & Dahlgren, 1991) and life-course perspectives (Kuh, 2014) were also consulted to enable the influence of context (socio-ecological model of health) and temporal elements of ageing (life-course) to be considered. Figure 3.1 depicts the epistemological and theoretical research

models used to develop the initial conceptual framework of social exclusion among the oldest old. The following section describes the relevance of these approaches to the formation of the proposed conceptual framework.

Figure 3.1

Theoretical Lens Used to Inform the Thesis' Initial Conceptual Framework of Social Exclusion among the Oldest Old



3.1.1 Constructivist Paradigms on Social Exclusion

A constructivist paradigm, also referred to as an interpretivist paradigm, was considered the most appropriate epistemological choice to underpin this thesis. The epistemological paradigm of constructivism champions an individual's knowledge, experiences and perceptions. It suggests that knowledge is created or constructed through social experiences and social environments (Green & Thorogood, 2009). Popular with qualitative researchers, a constructivist view seeks to understand the meaning behind an individual's lived experience (Bryman, 2016); and can be useful in quantitative research to interpret the context and meaning of findings (Creswell, 2018b).

Possible shortcomings of an extreme constructivist approach have been noted. For example, the formation of knowledge about disease and death[3] are perhaps more appropriately viewed as an objective category of the natural world (Green & Thorogood, 2009).

A constructivist paradigm is well suited to this study of social exclusion amongst the oldest old. It frames ageing (Phillipson, 2013) and social exclusion (Saunder, 2015) as socially constructed phenomena. This perspective is adopted in this study, which investigates lived experience and perception of social exclusion and its determinants, through interviews and analysis of survey responses. Other tenets of the constructivist paradigm were also applied to the methodological approach of this thesis. In particular, the interpretation of the participants' perceptions of social exclusion (generated from the research) will be used to progress a revised conceptual model of social exclusion among community dwelling oldest old.

3.1.2 Critical Gerontology Theory on Ageing

Aligned with the constructivist paradigm, this thesis is also inspired by the work of critical gerontologists, who suggest the experience of ageing requires critical appraisal of the socially constructed features of ageing and their implications (Biggs et al., 2003). Estes, a founder of this approach, claimed:

> The major problems faced by the elderly in the United States are in large measure ones that are socially constructed as a result of our conceptions of aging and the aged. What is done for and about the elderly, as well as what we know about them, including knowledge gained from research, are products of our conceptions of aging. In an important sense, then, the major problems faced by the elderly are the ones we create for them. (Estes in Phillipson, 2013 p.40)

[3] There is little doubt that the state of death is objective, however the concept of a 'good death' is more likely subjective. The consideration of death and conversely survival may be important in research with the oldest old.

Critical gerontologists promulgate the notion of the divide between the "third" and "fourth" age to highlight the injustice of promoting healthy ageing across all life stages – in particular in advanced age when it may not be possible to live up to societies expectations of independence and productivity (Biggs & Kimberley, 2013; Kesby, 2017). Each age category is called first, second, third and fourth age (Laslett, 1987). The respective age categories have the following characteristics:

- First age: an era for dependence, socialisation and learning
- Second age: an era for independence, maturity, responsibility and working
- Third age: an era for personal achievement and fulfillment after retirement
- Fourth age: an era for dependence, decrepitude and death

The major distinction between the third and fourth age, is that the third age is described as a period between work and late old age. It is a period of active engagement, and of exploring "new forms of personal development" (Phillipson, 2013, p. 48). By contrast, the fourth age is often associated with negatively perceived characteristics such as high levels of frailty, vulnerability and passivity (Baltes & Smith, 2003a) and having entered into a *metaphorical black hole* (Gilleard & Higgs, 2010). This division is cause for concern as Phillipson (1999) outlines:

> While the third age is emerging as an increasingly important arena where power, status and citizenship can be played out, those in fourth age or deep old age seem excluded from such a role. They are left to occupy the position of being nature's, not society's casualties. (p.162)

Critical gerontology counters the decrepit state of the fourth age described by others (i.e. Gilleard & Higgs, 2010). Tanner (2016) offers that in the fourth age, people are still able to lead a meaningful life by exercising control (agency) in their own way and by deciding what is important to them. Gerontological literature reveals that social relationships play a

key role in maintaining a sense of self, identity and dignity among the oldest old or those "living"[4] in the fourth age (Lloyd 2014).

Among researchers there appears to be a general consensus that critical gerontology encourages a multidisciplinary approach blending humanities and social science (Estes, 2001). This theory considers the voice of marginalized elders (Buffel & Phillipson, 2018), and promotes positive identities in later life (Biggs et al., 2003; Estes, 2001; Phillipson, 2013). This thesis addresses these three features of critical gerontology in the following ways. First, mixed methods were adopted to investigate the research questions; second, purposive recruitment of potentially oldest old living alone in public housing was undertaken; and third, the integration of findings discusses the possibility of positive, rather than necessarily negative views of social exclusion amongst the oldest old.

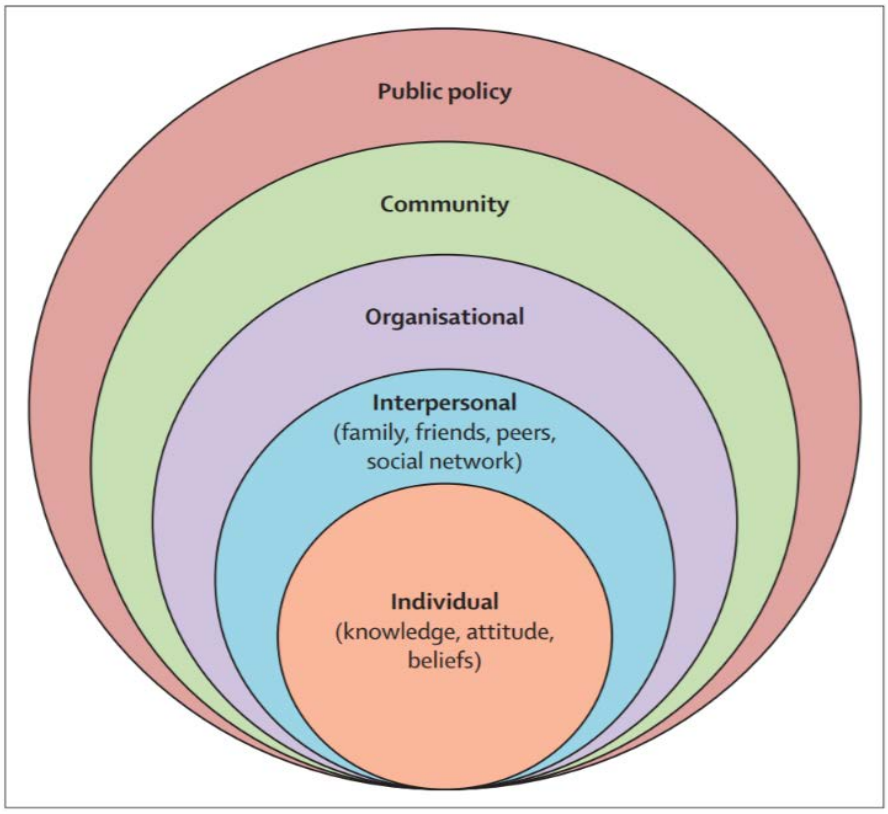
3.1.3 Socio-Ecological Model of Health

The socio-ecological model (SEM) suggests that the health and behaviour of individuals are shaped by macro (policies and culture), meso (intrapersonal factors and interpersonal relationships) and micro (genetics) factors (Whitehead & Dahlgren, 1991). This is depicted in Figure 3.2. In the SEM, the meso level encompasses intrapersonal factors such an individual's knowledge, awareness, attitudes, beliefs and perceptions; and interpersonal factors such as an individual's family, friends and health care (Bauman et al., 2002; McLeroy et al., 1988). Consistent with this model, the literature review identified a range of interconnected and reciprocal factors between individuals and their environment that shaped and circumscribed the experience of social exclusion amongst the oldest old.

[4] I have emphasised the word living to highlight from a critical gerontological perspective the potential injustice of systematically excluding the lived experience of oldest old from models of ageing.

Figure 3.2

Social Ecological Model of Health



Note: Adapted from McLeroy et al. 1998

The SEM has been widely used to investigate health and human behavior and has been frequently applied in the public health field (Prohaska et al., 2012). The model addresses some shortcomings from other health research perspectives that have a narrower focus. Examples include the psychosocial and biomedical perspective. Psychosocial perspectives of ageing (including disengagement, activity, and continuity theories) attempt to explain changes in behaviour regarding roles and relationships that occur as individuals age (Phillipson, 2013). Psychosocial theories of ageing arose partly from the limitations and criticisms of bio-medical models of ageing (Sadana et al., 2016; Stephens, 2016) that too narrowly defined ageing as physical health and functional ability. Neither the biomedical model nor the psychosocial model was specifically adopted for use in this study. However, elements of a socio-ecological model including behavioural and individual-level determinants do align with biomedical and psychosocial perspectives.

A popular model used in ageing research that aligns with many aspects of socio-ecological model is the *WHO Healthy Ageing Framework* (World Health Organization, 2002). The WHO recognised that "Healthy Ageing" depends on many factors including genetic, environmental, behavioural and social. Healthy ageing is considered "the process of developing and maintaining functional ability that enables wellbeing in older age" (World Health Organization, 2015, p. 41). Critical gerontologists pointout that the focus on functional ability is "exclusionary", especially for the oldest old (Biggs & Kimberley, 2013; Kesby, 2017) who are less likely than younger adults to have high function.

For the purpose of this thesis, the multi-level determinants of healthy ageing are encapsulated within the socio-ecological model of health. The application of the socio-ecological model guides the collection and analysis of data. For example, the relationship between individual and neighbourhood characteristics and health were explored in the quantitative study. Furthermore, the measures of social exclusion consisted of both interpersonal and intrapersonal factors. The qualitative study considered the possibility that macro factors such as culture and policy influence the perceptions, experiences and behaviours of the oldest old.

Although the socio-ecological model has strengths in examining interrelated micro, meso and macro-level determinants of social exclusion, it may not efficiently consider temporal elements of social exclusion (i.e. how past events shape the present). Another potential limitation is the difficulty in discerning the direction of the relationship between cause and effect of social exclusion, because the interactions between micro, meso and macro features are complex.

3.1.4 Life-course Perspective of Health and Ageing

The complementary perspectives of life-course provide a lens that is helpful in understanding the experiences of very old age. These perspectives add to health and ageing models by drawing focus to how earlier life experiences affect health in later life. Life-course models postulate that ageing is a process that occurs from life to death; as opposed to one, static old age (Kuh, 2014). Another assumption in this model, is that ageing experiences are shaped by cohort or historical factors (see section 2.1.1) (Passuth & Bengston, 1996 in Phillipson, 2013).

There is a growing consensus from international health organisations and researchers that ageing is best studied from an interdisciplinary life-course perspective, exploring how

older adults respond and adapt to ageing (National Institue of National Institue on Aging, 2016). Consequently it is thought that in old age health is dependent on lifetime accumulation and depletion of resources and skills, as well as the ability to recover from adverse events (Ben-Shlomo et al., 2016). This determines the *reserve* older people bring to later life. In this sense, reserve can be thought of as physical and mental health, good family relationships, social networks and coping strategies, and wealth (Dean & Platt, 2016). These characteristics are especially relevant to this thesis considering it is during the oldest years where ability to recover and adapt is especially important, as personal strength and resources (social support & money) could be diminishing.

Extending on life-course perspectives is the contribution of research on social inequality. Social inequality research illustrated the cumulative effect of disadvantage/advantage over the life-course. For example, longitudinal studies have demonstrated the cumulative effects of an unhealthy lifestyle and poor social environment with later-life poor health (Commission on Social Determinants of Health, 2008; Dean & Platt, 2016; Kuh, 2014; Marmot & Shipley, 1996; Umberson & Karas Montez, 2010).

Adopting a life-course lens, social exclusion research reports that individuals who have experienced disadvantage in their earlier years are more vulnerable to social exclusion in their later years. This could be due to, for example, mechanisms of poor educational achievement and criminal or deviant behavior (Backman & Nilsson, 2010). Age related experiences such as health decline, bereavement, and diminishing income following retirement, also support further understanding of the temporal or life-course element of social exclusion among the oldest old (Weldrick & Grenier, 2018).

Whilst the life-course is generally accepted as an important perspective in understanding the influence of structural features on ageing, some limitations have been suggested. One view is that it is difficult to predict late-life outcomes based on a current cohort, and subsequently current and future developments such as globalization and migration are poorly integrated in life-course models (Phillipson, 2013).

Another criticism is that the primary focus of the life-course is on the individual, and not *age* perse. This argument, as it relates to social exclusion, is that exclusion can exist through age-based loss of authority and status - not just social inequality over the life-course. The inadequacy of the life-course to consider the impact of age is highlighted by Calastati who states: “old age is a unique time of life and cannot be reduced to a result of events occurring in middle age or over the life-course” (Calasanti in Biggs, 2003, p.205).

Notwithstanding these limitations, the life-course model was considered useful in shaping my initial conceptual framework of social exclusion among the oldest old and the qualitative study included a life-course element. The life stage of very old age as a distinct experience is likely to be relevant in understanding the experience and perception of social exclusion among the oldest old.

3.1.5 Proposed Initial Conceptual Framework of Oldest Old Social Exclusion

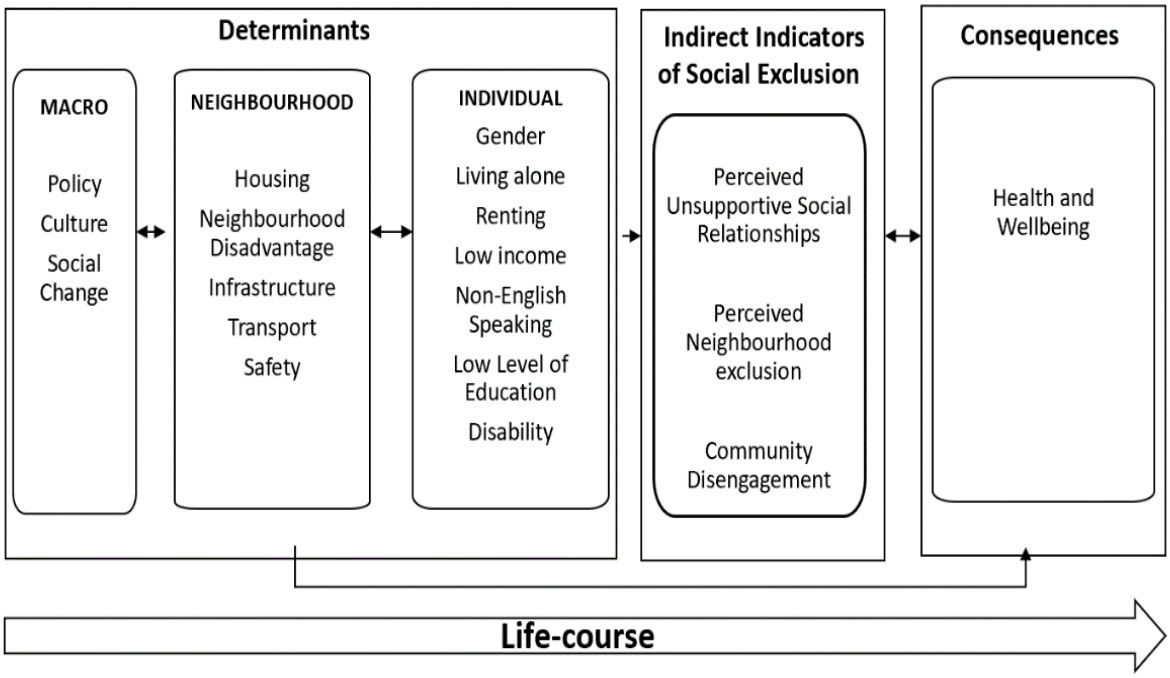
As highlighted from the literature review, social exclusion prohibits people from accessing opportunities they deem important to their wellbeing. It is plausible that the concept of social exclusion provides a framework for further examination of possible health and wellbeing inequalities experienced in very old age.

Figure 3.3 presents a proposed initial conceptual framework that synthesizes the multiple perspectives reviewed from the literature used to guide this thesis. At present there is no known conceptual framework of social exclusion relevant to the oldest old. There are however several older age social exclusion frameworks that focus on rurality (Walsh et al., 2019) and exclusion from social relationships (Burholt et al., 2019). My research tests the utility and validity of the initial framework and then proposes a revised framework. The revised conceptual framework (section 8.6) is based on the integration of all findings of this thesis and aims to contribute to advancing our knowledge of causes, experiences, consequences and responses to social exclusion among community dwelling oldest old.

The framework proposes that health and wellbeing in very old age is shaped by time and place, historical events, personal biography, social and community ties, and individual and neighbourhood-level factors. This framework was subsequently used to inform the research methodology. Specifically, the quantitative study examined the relationship between individual - and neighbourhood - level vulnerability (main explanatory variables), indirect measures of social exclusion (predictor/ explanatory variables) and health (outcome variable). The qualitative study added the influence of the life-course which highlighted the importance of structural or macro factors including the influence of culture, policy (social security/welfare) and social change on perceptions and lived experience of social exclusion.

Figure 3.3

Proposed Initial Conceptual Framework of the Determinants and Consequences of Social Exclusion Among the Oldest Old Informed by Literature



3.2 Methodological Approach

This section discusses the rationale for the methodological approach used in this thesis. The mixed method approach was chosen as it was deemed well suited to explore the central research question. This section broadly discusses research paradigms, mixed method approaches, and the mixed method design applied in this thesis. The strengths and limitations in applying this method are also outlined. The specific quantitative and qualitative study methods, and the findings generated from the application of the methods are detailed in Chapters 4 and 5, and Chapters 6 and 7 respectively.

It is commonly proposed that humans' assumed knowledge of the world is shaped by two main factors; ontology – what exists, and epistemology – the means of demonstrating what exists. Researchers draw on these paradigms, or worldviews, to guide research action and investigation (Guba & Lincoln, 1994). Arguably, what is accepted as knowledge depends on a preferred paradigm. This was evident when reviewing healthy ageing perspectives. A brief account of these two research paradigms follows to highlight what can be gained by considering the two approaches.

Ontology is derived from two Greek words; *ontos* – being, and *logia* - logical discourse. The positivist paradigm stems from the ontology tradition and views knowledge as objective reality. Measured through deductive hypothesis testing, this approach is mostly associated with quantitative research, and is typified by representative population data collection, such as large-scale surveys to show the presumed cause and effect of one factor leading to another. Quantitative research seeks to quantify the probability that an observed outcome can be generalised to a wider population (Bryman, 2016). The position of the researcher in quantitative research is typically considered to be value-free (Green & Thorogood, 2009).

Conversely, an interpretivist paradigm, or constructivist epistemology, proposes that there is no single reality; rather, reality is dependent on individual perceptions and contextual factors. The interpretivist paradigm considers the truths about the world to be formed through personal perceptions, shaped through culture and history. This approach is suited to qualitative research. Contrary to the positivist paradigm, the constructivist researcher's positionality is viewed as more likely to influence the research (Green & Thorogood, 2009).

Where positivism is criticised for a rigid worldview, interpretivism/constructivism is criticised for the inherent subjectivity which can find contradictory and inconsistent findings (Kivunja & Kuyini, 2017). The limitations of both worldviews have led some researchers to endorse combining or mixing the methods (Creswell, 2018b) into a mixed-methods approach.

3.2.1 Mixed Methods

Mixed methods investigations combine quantitative and qualitative approaches to facilitate data collection and analysis (Schoonenboom & Johnson, 2017). Mixed methods draws from the strengths and minimises weaknesses of both singular approaches (Johnson & Onwuegbuzie, 2004). The differing world views or paradigms governing researchers have led to some vehemently defending their particular position, referred to as the "paradigm wars" (Denzin & Lincoln, 2018; Johnson & Onwuegbuzie, 2004), whilst others accept the possibility of using both paradigms - and mix the methods (Bryman, 2016; Creswell, 2018b). Proponents of mixing the methods argue that instead of a dichotomised approach, interpretivist and positivist approaches are on a continuous scale and the application of both is possible (Johnson & Onwuegbuzie, 2004). While the quantitative research can be viewed as coming from a positivist transition, the research questions used in the quantitative studies are informed by epistemological constructivist perspectives including self-administered

survey data on measures capturing perceived vulnerability to social exclusion (hence not a measure of an objective state) and examining contextual determinants. The method of bringing together the findings of the two studies suits a constructivist paradigm.

It was considered that applying a mixed method design, with an overarching constructivist paradigm, was a convincing strategy to address the central aim of this thesis. For example, by adopting this approach, perspectives of social exclusion can be explored and include voices of potentially vulnerable oldest old.

Convergent Parallel Mixed Method Design

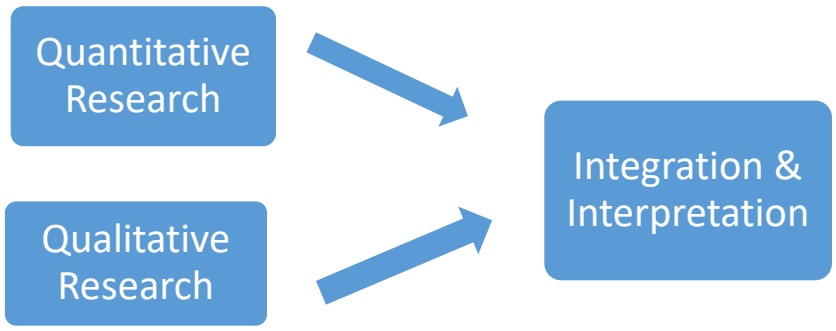
This thesis used a common mixed method design described as a *convergent parallel design* (see Figure 3.4), in which the "quantitative and qualitative strands of research are performed independently, and their results are brought together in the overall interpretation" (Schoonenboom & Johnson, 2017, p. 117). In other words, equal importance is given to both stages of data collection and analysis. A mixed method study usually integrates the results; where the quantitative and qualitative components are brought together to offer complementary data on the same topic to generate greater understanding (Schoonenboom & Johnson, 2017). This approach to drawing together common strands from all data is referred to as *meta-inference* (Fetters et al., 2013). The rationale applied for selection of this particular typology is the capability of convergent parallel mixed method designs to generate complementary, contradictory or incongruent findings (Creswell, 2018a). This was considered a good fit with a constructivist and critical gerontology theoretical perspective. The convergent parallel mixed method design is depicted in figure 3.4.

In applying the convergent parallel mixed method typology to this study of social exclusion amongst the oldest old, there were three main components, as depicted in Figure 3.4. The first was a quantitative analysis of secondary data from a general population health survey to examine the determinants and consequences of social exclusion amongst the oldest old. This enabled a broad overview of the research topic. The second component was a qualitative study that described the lived experiences and perceptions of social exclusion among a population group typically not represented in quantitative surveys –older aged public housing residents who live alone. The third component was a discussion that integrated the findings of the quantitative and qualitative study (see Chapter 8) and drew together overarching themes or meta-inferences. By comparing, contrasting and reflecting on

overall findings, meta-inferences can provide a more nuanced understanding of social exclusion, capitalising on the mixed-method design (Fetters et al., 2013). The meta-inferences progressed the initial conceptual framework based on the literature (Chapter 2), to inform a revised conceptual framework based on the findings of this thesis that is presented in the discussion chapter (section 8.6).

Figure 3.4

Convergent Parallel Mixed Methods used to Inform this Thesis



Note: adapted from Schoonenboom & Johnson 2017.

Some challenges arise when using mixed method designs. The design can be time intensive, as both quantitative and qualitative data need to be collected and analysed. This challenge was minimised in this research; firstly, by conducting secondary analysis of quantitative data limited to those aged 85 and over, and secondly, selecting a limited number of variables relevant to health and wellbeing and social exclusion (as identified from the literature review).

Another challenge relates to the choice of qualitative study participants (Creswell, 2018b). This research involved interviews with a sub-population of the oldest old who are thought to be at high risk of social exclusion (public housing residents) and under-represented in population surveys. It should be noted that a common approach when using mixed method designs is to use qualitative study participants from the initial quantitative sample (Creswell, 2018b; Fetters et al., 2013). This was not possible due to survey data not being collected by the researcher, the de-identified nature of the quantitative data, and the tight timelines of the PhD project.

Despite the limitations of time constraints and choice of participants, the strengths of using a mixed methods approach to researching social exclusion amongst the oldest old is compelling. For example, the WHO report *Understanding and Tackling Social Exclusion* argues: "exclusionary processes can only be adequately represented through both quantitative and qualitative data – through both indicators and stories"(Popay et al., 2008, p. 9). Furthermore, a systematic review of social exclusion literature concluded: "Different research strategies need to be put in place to investigate the dynamics of social exclusion in vulnerable groups excluded from or underrepresented in household surveys" (Levitas, 2007, p. 11).

The mixed methods design utilised in this research meets the challenges mentioned above and aligns with the proposition that social exclusion is a complex social phenomenon.

3.2.2 Reflective Journal and Reflexivity

In line with the constructivist worldview that guides this thesis, an important preliminary acknowledgement is the influence of researchers themselves on the investigation, and how that might shape the research. This epistemology acknowledges that interpretation flows from a researcher's positionality or personal experiences (Denzin & Lincoln, 2018). Reflexivity is an important component of this reflection. Reflexivity is the process of constant self-conscious reflection on personal assumptions, choices and attitudes toward the research process, and collection and analysis of data (Creswell, 2018b; Green & Thorogood, 2009). This is also in keeping with the critical gerontology theoretical underpinning of this thesis, "Critical gerontologists engage in reflection on their own roles in the production of knowledge relating to their research themes" (Ziegler & Scharf, 2013, p. 158).

In this thesis, reflexivity was approached in a number of ways; reflection on how my position and assumptions affected recruitment, data collection and data analysis; consideration of critical gerontology theory, which is concerned with knowledge of self in relation to power, and in particular consideration of insider and outsider influences on research; and sharing the challenges and learnings encountered by the researcher, so as to provide useful learnings for other researchers who contemplate qualitative research with socioeconomically disadvantaged oldest old. Extracts from my reflective journal are provided throughout this thesis and there is a section in the Discussion and Conclusion Chapter called Reflective Practice (see section 8.8) .

3.3 Chapter Summary

The thesis has been structured to critically reflect on assumptions that underly what is considered “known” about oldest old social exclusion. It takes a constructivist worldview and considers social exclusion to be shaped by, but not limited to, contemporary as well as historical social contexts. These contexts may alter the perceptions and behaviours of, and opportunities for, older people. This in turn affects the experiences and meanings of social exclusion. This chapter advocated that a combination of complementary theorical and empirical designs is conducive to addressing the aim of the thesis, namely, to examine the context, causes and consequences of social exclusion among the oldest old. The next chapter reports on the first part of the quantitative component (methods) of the mixed methods study.

Chapter 4: Quantitative Study of Social Exclusion Among the Oldest Old - Methods

This chapter presents the first part of the quantitative component of the mixed method research study of perceived vulnerability to social exclusion amongst the oldest old. It describes the focus, scope, development of measurements and analytical plan of the quantitative study. Chapter 5 presents the results of the quantitative study.

In lieu of a specific definition of oldest old social exclusion, the definition adopted for this thesis is: "social exclusion incorporates how processes deprive people and communities access to opportunities to achieve well-being and security in the terms that are important to them" (Peace, 2001, p. 34).

From the review of the literature, it appears that the most theoretically robust approach to the measurement of social exclusion lies in the conceptualisation of exclusion as a multi-dimensional process. Acknowledging multiple domains of social exclusion, this thesis focuses on domains thought to be important to the oldest old -perceived vulnerability to social exclusion from social relationships, neighbourhood, and community. The approach used in this quantitative study was to examine indirect measures of social exclusion along a continuum rather than computing prevalence (i.e. how many community dwelling oldest old Australians are socially excluded).

The proposed conceptual framework of older age social exclusion developed from the review of literature was used to guide the research questions, development of measurements and analytical plan.

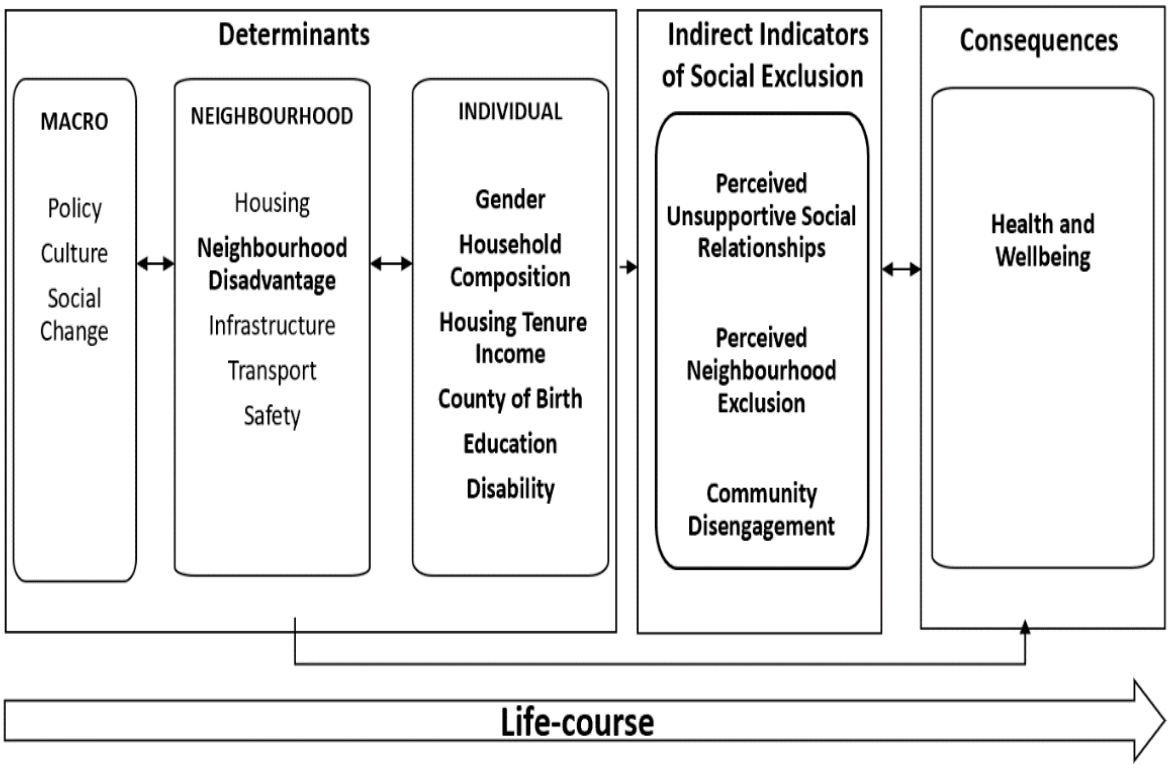
The quantitative study aims to investigate who is most at risk of social exclusion and the health consequences, and is guided by the following four research questions:

1. **What is the association between individual-and neighbourhood-level sociodemographic factors and social exclusion?**
2. **What is the association between individual-and neighbourhood-level sociodemographic factors and health?**
3. **What is the association between social exclusion and health?**
4. **What contribution does social exclusion make to the association between individual- and neighbourhood-level sociodemographic factors and health**

The bolded text in Figure 4.1 depicts the specific measures used, and the relationship between the social exclusion domains, variables and health. In the framework the three social exclusion domains are dependent variables, whereas individual and neighbourhood-level factors are independent variables. Health and wellbeing are an outcome of both the social exclusion domains and independent variables. The thesis tests the accuracy of this conceptualisation.

Figure 4.1.

Proposed Initial Conceptual Framework Used to Inform the Quantitative Study



Note: Bolded text depicts the indicators used in this quantitative study.

4.1 Data Source for the Quantitative Study – Household Income and Labour Dynamics Australia (HILDA)

To answer the four research questions specific to the quantitative phase of the mixed method study, a cross-sectional analysis using HILDA was undertaken. HILDA was the most appropriate choice for this thesis in terms of answering the research questions. First, HILDA was relevant because it is a representative population-based study that included the oldest old. Second, it collects a wide range of data that can be operationalised to undertake the analysis required for the quantitative component of this thesis. The Australian General Social Survey conducted every four years by the Australian Bureau of Statistics was also considered. Several limitations of the General Social Survey were noted: the online nature of the survey may exclude those without internet, and the dearth of survey questions on perceptions of social relationships and neighbourhood exclusion would have impeded analyse required for this quantitative inquiry.

4.1.1 Conducting Secondary Data Analysis for the Quantitative Component of this Thesis

Secondary data, commonly described as data previously collected by someone other than the researcher (Creswell, 2018b), was employed to answer the research questions. For several reasons, it was decided to analyse quantitative data that were not collected by the researcher, as opposed to developing and administering a new survey. The first reason related to time constraints within a three-year PhD program. It was considered that the tight timelines of a PhD study would not allow enough time to develop and administer a survey. Other compelling reasons to use secondary data were the large financial costs of administrating a survey, and the difficulty in recruiting a random sample of community dwelling people aged 85 and over. Notwithstanding these limitations, secondary data were deemed the most appropriate means of answering the quantitative research questions within the parameters of this thesis.

4.1.2 Ethical Approval to use HILDA Data

This thesis was submitted for ethics approval. Approval to use HILDA's de-identified data was granted from Australian Department of Social Services and ACU Human Research Ethics Committee (Appendix A).

4.1.3 The HILDA Survey and its Scope and Coverage

HILDA is funded by the Australian Government Department of Social Services (DSS) and is managed by the Melbourne Institute: Applied Economic & Social Research at The University of Melbourne. Fieldwork is contracted out to private companies[5]. The purpose of HILDA is to provide longitudinal data on the lives of Australian residents, living in private dwellings, about income, labour market participation and family dynamics. Conducted annually since 2001, HILDA is modelled on similar household panel studies, in particular the German Socio-Economic Panel and the British Household Panel Survey (now called The Understanding Society study) (Wooden & Watson, 2007). Data are collected on every household member, but interviews are only sought with people aged 15 years and older.

Households were recruited across all Australian States and Territories, except for those living in very remote or sparsely populated regions. Non-resident visitors and those living in non-private dwellings were excluded from the sample. Private dwellings included homes that are owned or rented (including public housing) by the resident. Non-private dwellings were nursing homes, prisons, hotels, motels and caravan parks. Since the first panel (Wave 1), efforts have been made to interview all members of Wave 1 responding households, following them wherever they move in Australia, including remote and rural areas. However, it does exclude those respondents who move to non-private dwellings such as an aged-care facility (Wooden et al., 2002).

4.1.4 HILDA Research and Sampling Design

The initial wave (2001) began with a sample of 7,682 households and 13,969 individuals (Wilkins & Lass, 2018) and the response rate at the individual level was 66% (Wooden et al., 2002). The sampling design first randomly selected geographical areas (census districts), and second, randomly selected households in those areas. Overtime, extra people have been added because of fluctuations in household composition. For example, if a person left their original household (e.g. children left home, or a couple separated), and then formed an entirely new household, all persons living with the original sample member would

[3]The Nielsen Company conducted fieldwork from Wave 1- 8, and Roy Morgan Research has conducted the fieldwork since.

be included as new participants of HILDA. Furthermore, any individual who became part of an existing (permanent) sample member's household are also included. In 2011 (wave 11) a top-up sample of 2000 people was added to allow better representation of the Australian population, in particular, targeted recruitment of people from CALD backgrounds (Watson & Wooden, 2013).

4.1.5 HILDA Data Collection Procedures

HILDA data are collected via a combination of telephone and face-to-face interviews, and self-completed questionnaires. Self-completed questionnaires are in English and participants are provided with a monetary gratuity (e.g. $30 in 2016) to complete and return the questionnaire (Summerfield et al., 2017). In addition to annual survey questions, modules focusing on special topics are included. These additional modules are included in the survey on a rotating basis.

4.1.6 HILDA Data Used in this Thesis

For this thesis, data from 2016, or Wave 16 (collected between July 2016 and February 2017) was chosen because it was the most recent wave that contains a neighbourhood environment module – important for measuring perceptions of neighbourhood exclusion, a key component of older age social exclusion.

In 2016, there was an individual response rate of 64.6% from the main sample (n= 7,635 households and n= 13,834 individuals) and a response rate of 81% for new entrants entering the sample (n=2,115 households and n= 3,860 individuals) (Wilkins & Lass, 2018). Of the 17,606 persons who were interviewed in Wave 16, 16, 253 (91.9%) returned the self-completion questionnaire (Summerfield et al., 2017).

4.1.7 Scope and Focus of the Quantitative Research Undertaken in this Thesis

HILDA participants aged 85 and older (n=307) were selected for the analysis. Wave 16 of HILDA included 315 respondents aged 85 years or more who had completed the self-administered survey. Of these, eight had incomplete data on the socio-demographic variables (i.e. income and housing tenure) and hence were excluded, resulting in an analytic sample of 307. The mean age of men was 87.7 (n=127; standard deviation = 2.5) and women was 88.5 (n=180; standard deviation = 3.3).

The HILDA self-administered survey data were used to answer the four research questions that underpin the quantitative component of the mixed method study. The next section describes the rationale and process for constructing the measures used in this thesis. Overall, the items were selected in response to the guiding epistemological stance and research models, summarised in the proposed conceptual framework (Chapter 3, Figure 3.3). The constructivist stance assisted in directing attention to the focus on perceptions; and the socio-ecological model of health assisted in identifying demographic characteristics (determinants), intrapersonal social relationships and neighbourhood factors (social exclusion variables) and health outcomes.

4.2 Social Exclusion Measures Used in this Thesis

As the HILDA study was not specifically designed to examine social exclusion per-se, HILDA data were selected to construct measures that may be indicative of social exclusion. As identified in the literature review, three dimensions of social exclusion relevant to the oldest old were explored: perceived unsupportive relationships, perceived neighbourhood exclusion, and community disengagement.

Once possible indicators available in HILDA data were identified, factor analysis was used to see how different variables clustered together. It has been noted that factors that cluster together can change over time or with different population groups (Saunders, 2011). Given the unique life-course attributes of the oldest old (e.g. high levels of disability, widowed and retired), it may be necessary to define measures that are unique to the oldest old experience, rather than apply measures used for younger adults (Fuller-Iglesias & Rajbhandari, 2016). It has also been argued that judgment should be used, informed by theoretical reflection, on how different items are related when deciding what variables to cluster together (Saunders, 2011). As there is no precedent, a key question that guided the development of measures was whether the clusters were likely to be relevant and make logical sense, in the context of social exclusion amongst the oldest old. Consequently, the approach adopted for this thesis involved Principal Components Analysis (PCA) of HILDA Survey indexes and theoretical judgment.

4.2.1 Perceived Unsupportive Relationships

From the review of the literature, exclusion from meaningful relationships encompasses exclusion from the development and maintenance of meaningful relationships and inability to draw on them for support, either through absence of networks, inability to access them, or rejection from them (see Table 3.1). The literature review highlighted the importance of considering perceived isolation and quality of relationships as a different construct than subjective measures of frequency of interactions (Levasseur et al., 2010; Levitas, 2007). Perception of supportive relationships may denote a sense of belongingness and personal self-worth which is important for feeling socially included (Fuller-Iglesias & Rajbhandari, 2016). In line with the definition that guides this thesis, a sense of unsupportive relationships may inhibit 'access to opportunities to achieve well-being and security in terms that are important' for the oldest old.

A scale measuring perceived supportive relationships was created using the "Index of Social Support" included in HILDA. The "Index of Social Support" is informed by attachment theory and designed to assess an individual's perception of emotional and practical social support available to them (Duncan-Jones, 1981; Henderson et al., 1978; Marshall & Barnett, 1993). The HILDA *Index of Social Support* has been used in previous studies (Berry & Welsh, 2010; Henderson et al., 1978; Hewitt et al., 2012; Milner et al., 2016). The 10 survey items were rated on a Likert Scale ranging from strongly disagree (1) to strongly agree (7), as follows:

1. People don't come to visit me as often as I would like*
2. I often need help from other people but can't get it*
3. I seem to have a lot of friends
4. I don't have anyone that I can confide in*
5. I have no one to lean on in times of trouble*
6. There is someone who can always cheer me up when I'm down
7. I often feel very lonely*
8. I enjoy the time I spend with the people who are important to me
9. When something's on my mind, just talking with the people I know can make me feel better
10. When I need someone to help me out, I can usually find someone

Positively phrased statements were reverse coded, and items were submitted in a PCA. The items loaded onto two factors that were distinguished by whether the questions were initially positively or negatively phrased. As the focus of this thesis is on social exclusion, theoretical judgement was used to retain the five items reflecting perceived deficiencies in social relationships; and discard the five positively phrased items. The five retained items (refer to asterix) were used in a PCA with Varimax rotation.

The reliability of the perceived unsupportive relationship scale measure was assessed by calculating the Cronbach Alpha statistic, which reflects how well the variables capture a single underlying latent construct (Tabachnick & Fidell, 2014). A low value (less than 0.7) implies that the items do not measure the same construct, or that multiple constructs exit (Tabachnick & Fidell, 2014). The perceived unsupportive relationship scales Cronbach's Alpha was 0.7 and demonstrates good internal consistency[6].

Next a score was calculated for each respondent by standardizing the 5 items. The original scores were transformed into a scale ranging from 1-100 which makes for clearer interpretation. Higher scores indicated heightened perceptions of unsupportive relationships and hence greater likelihood of experiencing social exclusion.

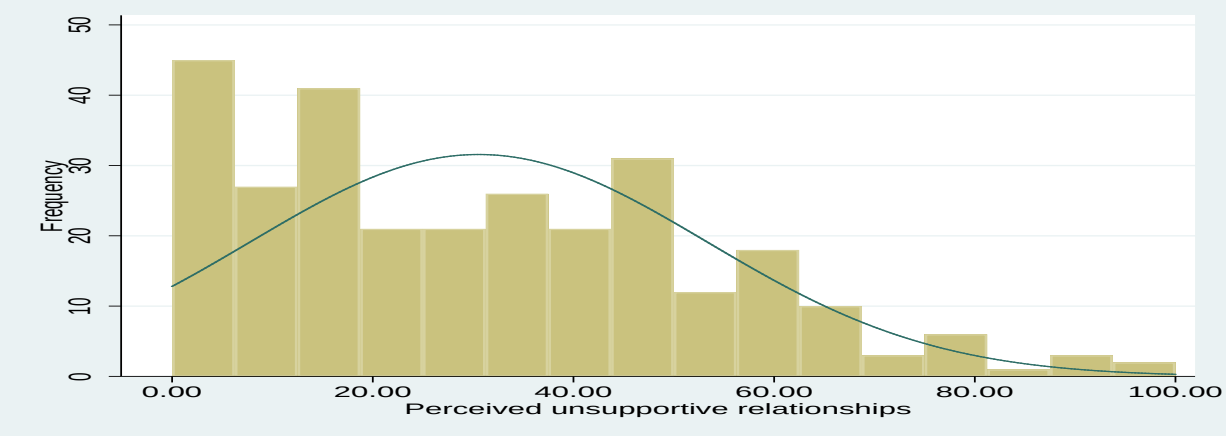
The distribution of responses on the perceived unsupportive relationship scale is graphed in Figure 4.2. The mean score is 31.4 (SD= 22.8; 95% C.I.= 28.7 to 34.1). When looked at separately for men and women, there was no statistically significant difference. Men had a mean score of 32.0 (95 % C.I. = 27.7 to 36.3), and women had a mean score of 29.5 (95 % C.I. = 26.2 to 32.9)

The distribution is negatively skewed, indicating that perceiving oneself to have unsupportive relationships is uncommon in this sample of oldest old Australians.

[6] For each of the other measures of social exclusion, a small number of respondents were excluded due to missing data on one or more of the items. To assess whether excluded respondents differed from those who were retained an analysis of missing data was conducted and this is presented later in the chapter.

Figure 4.2.

Distribution of Perceived Unsupportive Relationships Scale



4.2 3 Perceived Neighbourhood Exclusion

Historically, research on neighbourhood exclusion has involved measuring indicators such as feeling part of the neighbourhood, and levels of trust and safety (Barnes, 2006; Scharf et al., 2005b) and rurality (Dahlberg & McKee, 2018; Van Regenmortel et al., 2016). For this quantitative study, neighbourhood exclusion indicators were compiled by deriving scales using the 10 item “Neighbourhood Index” included in HILDA, which relates to observed neighbourhood characteristics of safety, amenity and neighbourhood cohesion. The “Neighbourhood Index” items are based on similar items occasionally included in the British Social Attitudes Survey(Sampson et al., 2002). Survey items were rated on a Likert Scale ranging from never happens (1) to very common (5) and there was an option to select “don’t know”. The HILDA question asked: How common are the following things in your local neighbourhood? The ten items are:

1. Neighbours helping each other out
2. Neighbours doing things together
3. Loud traffic noise
4. Noise from airplanes, trains or industry
5. Homes and gardens in bad condition
6. Rubbish and litter lying around
7. Teenagers hanging around on the streets
8. People being hostile and aggressive
9. Vandalism and deliberate damage to property
10. Burglary and theft

Table 4.1 shows the results of the final PCA of the items from the neighbourhood index and the retained factor loadings for survey items for measures of neighbourhood exclusion. Positively phrased items were reversed coded (e.g. item 1 & 2). An initial analysis was run and showed a cross loaded item *Homes and gardens in bad condition*; hence this item was excluded. Subsequently, the item *people being hostile* loaded onto a different factor. The three retained latent factors include perceived neighbourhood exclusion, that were subsequently named as; noise, crime and incohesion[7]. These factors are consistent with theoretical components identified in the literature review and to the adopted definition of oldest old social exclusion. For example, it was considered that fear, noise and incohesion may be barriers to 'opportunities to achieve well-being and security', and conversely neighbourhood inclusion may be protective against feeling socially excluded. However, it should be noted that these measures depart from previous research using the HILDA "Neighbourhood Index"(Ambrey, 2016; Shields & Wooden, 2003; Shields et al., 2009). These studies instead aggregated survey items based on pre-determined constructs (e.g. called by the researchers neighbourly interaction and support, local disamenity, and insecurity in the neighbourhood). Table 4.1 shows the retained items and each component's Cronbach's alpha.

[7] Oxford English Dictionary defines *incohesion* as a lack of social cohesion.

Table 4.1

Final Component Loadings for Survey Items Measuring Neighbourhood Exclusion

	Retained components (loadings)[a]		
	1	2	3
Perceived noise			
Loud traffic noise	0.8		
Noises from airplanes, trains or industry	0.8		
Cronbach's Alpha	0.6		
Perceived crime			
Teenagers hanging around the streets		0.8	
People being hostile or aggressive		0.7	
Vandalism and deliberate damage to property		0.9	
Burglary and theft		0.8	
Rubbish and litter lying around		0.7	
Cronbach's Alpha		0.9	
Perceived incohesion			
Neighbours helping each other out			0.9
Neighbours doing things together			0.9
Cronbach's Alpha			0.8

Note: [a] Loadings on varimax rotated factors.

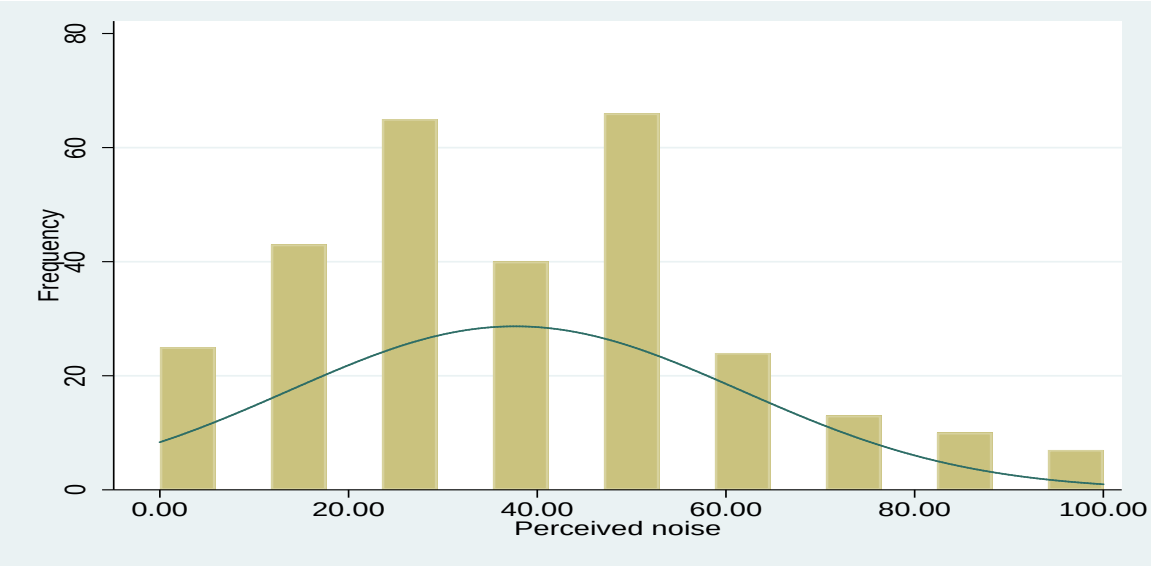
Perceived Noise

Respondents who had missing data or choose the “don’t know” option were excluded from the PCA; thus 14 participants were excluded on the measure of perceived noise (4.6% missing of sample). This measure was treated in an identical manner to that described for the perceived unsupportive relationships scale. The scale score was calculated for each respondent by standardizing the retained items and the original scores were transformed into a scale ranging from 1-100. The Cronbach’s Alpha score for the perceived noise scale was 0.6.

The distribution of the perceived noise scale is presented in Figure 4.3. Higher scores indicate heightened perceptions of noise. The perceived noise scale mean was 37.8 (SD= 24.0; 95% CI 35.1 – 40.5). When looked at separately for men and women, there was no statistically significant difference observed. Men had a mean score of 38.0 (95 % C.I. = 33.8 to 42,2), and women had a mean score of 37.4 (95 % C.I. = 33.7 to 41.2).

Figure 4.3

Distribution of Perceived Noise Scale



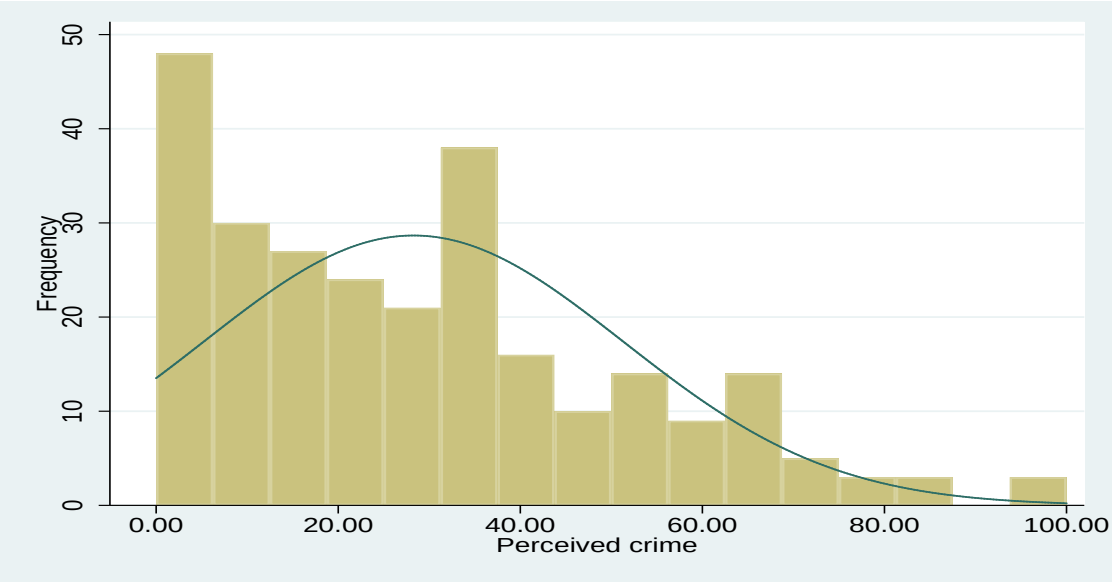
Perceived Crime

Respondents who missed items or choose the "don't know" option on the perceived crime variables were excluded from the PCA, thus 42 participants were excluded on this measure. The scale score was calculated for each respondent by standardizing the retained items and the original scores were transformed into a scale ranging from 1-100. The Cronbach's Alpha score for the perceived crime scale was 0.8.

The distribution of the scale is presented in Figure 4.4. Higher scores indicate heightened perceptions of perceived crime. This figure shows that the distribution is negatively skewed, indicating that in this sample of oldest old Australians crime is perceived as being uncommon. The perceived crime scale mean was 28.3 (SD= 23.1; 95%CI 25.5 – 31.1). When looked at separately for men and women, there was no statistically significant difference observed. Men had a mean score of 27.8 (95 % C.I. = 23.7 to 31.9), and women had a mean score of 28.6 (95 % C.I. = 24.8 to 32.4).

Figure 4.4

Distribution of Perceived Crime Scale



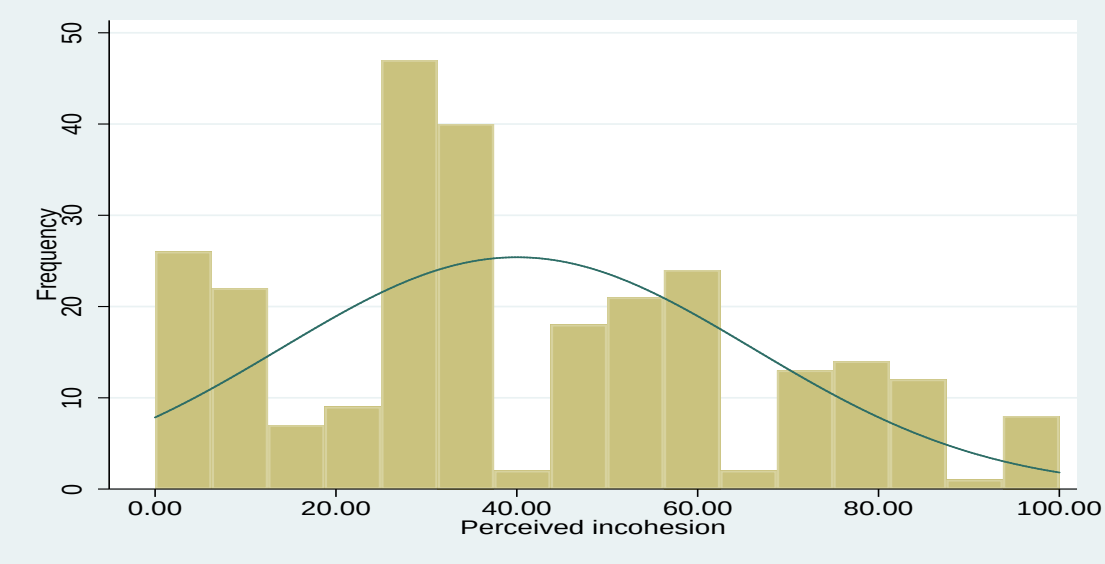
Perceived Neighbourhood Incohesion

To create the perceived neighbourhood incohesion scale, positively phrased statements were recoded, so that a higher score indicates a higher degree of perceived incohesion. Respondents who missed items or chose the "don't know" option were excluded from the analysis; thus 41 participants (13.4%) were excluded on this measure. The scale score was calculated for each respondent by standardizing the retained items and the original scores were transformed into a scale ranging from 1-100. The Cronbach's Alpha score for the perceived neighbourhood incohesion scale was 0.8.

The distribution of the perceived incohesion scale is presented in Figure 4.5. Higher scores indicate heightened perceptions of neighbourhood incohesion. The perceived incohesion scale mean was 40.1 (SD= 26.1; 95% CI 36.9 to 43.3). There was no statistically significant difference in mean scores between men and women. Men had a mean score of 40.2 (95 % C.I. = 35.3 to 45.1), and women had a mean score of 39.9 (95 % C.I. = 35.7 to 44.0).

Figure 4.5

Distribution of Perceived Incohesion Scale



4.2.4 Community Disengagement

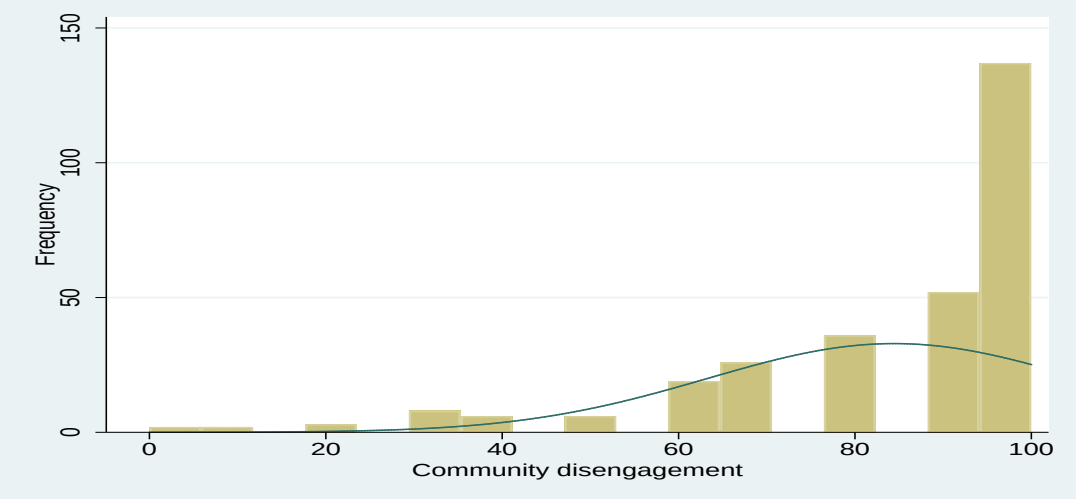
Non-participation or disengagement in the broader community is often associated with social exclusion (Cherry et al., 2013; Sacker et al., 2017). Discrimination, or perhaps more accurately ageism, regarding access to services and amenities in the community may contribute to social exclusion (Kneale, 2012; Levasseur et al., 2010; Sacker et al., 2017; Weldrick & Grenier, 2018). Although disengagement seems to be capturing a consequence of exclusion (i.e. endpoint), it is possible that community disengagement may also be a barrier to accessing opportunities which are consistent with the guiding social exclusion definition. The index of community disengagement was constructed by summing three items measuring attendance at cultural or leisure activities from a list of 10 activities in the HILDA questionnaire. Only the three items in which people had to leave the home were chosen to capture the theoretical conceptualisation of community disengagement. HILDA respondents were asked to indicate the frequency that they participate in activities over the last 12 months. Responses could range from most days (1) to not at all (7). The three items for which people must leave the home to participate were:

1. Going to the movies, concerts, theatre or performing arts;
2. Attending museum or art gallery; and
3. Attending educational lectures or courses.

The index construction was restricted to participants who responded to each item comprising the community disengagement measure, thus 10 participants (3.3%) were excluded from this index. The index was converted to range from 1-100, with higher scores denoting less engagement in the community and hence a greater risk of social exclusion. The mean score on the community disengagement index was 84.4 (SD= 21.2; 95% CI 82.0 to 86.9) There was no statistically significant difference in mean scores between men and women. Men had mean score of 86.2 (95% CI = 83.0 to 89.5) and women had a mean score of 83.2 (79.8 to 86.1). Figure 4.6 shows the distribution of the index. Most participants in the sample seldom engage in community activities that require leaving the home.

Figure 4.6

Distribution of Community Disengagement Index



4.2.5 Missing Data on Social Exclusion Measures

The analysis for each measure of social exclusion was restricted to participants who responded to each item comprising the social exclusion measures. Table 4.2, summaries the frequency of missing data on each measure of social exclusion.

Table 4.2

Frequency of Missing Data on Measures of Social Exclusion

Measures of social exclusion	Missing	Valid answer	Valid answer % of total	% missing of sample
Unsupportive Relationships	19	288	93.8	6.2
Neighbourhood Noise	14	293	95.4	4.6
Neighbourhood Crime	42	265	86.3	13.7
Neighbourhood Incohesion	41	266	86.6	13.4
Community Disengagement	10	297	96.7	3.3
Total missing[1]	83	224	73.0	27.0

Note:[1]The total missing does not sum to 83 because of multiple missing responses from participants

To assess if the sociodemographic characteristics of those who were excluded were statistically different to those who were included, a logistic regression was performed. A binary measure of excluded (n=83) or not excluded (n=307) was created using a dummy variable whereby responses of “don’t know” and no answer were coded as missing (assigned a value of 1) and summed across the five measures of social exclusion.

Table 4.3 presents the results of a logistic regression which examined the sociodemographic characteristics of those excluded from the social exclusion measures (the rationale and construction of variables measuring the sociodemographic characteristics are described in the following section). Women in households where the annual equivalised income was between $26,000-35,999 were (marginally) less likely to be excluded than their counterparts in the highest income category. There were no other statistically significant differences between the included and excluded participants. Overall, there is no compelling or convincing evidence that participants who were included in the analysis differed from those who were excluded; hence the deletion of missing cases was unlikely to introduce any systematic bias in the study results.

Table 4.3

*Sociodemographic Characteristics of Participants who were Excluded from the Analysis: Odds Ratios And 95% Confidence Intervals***.**

	MEN OR (95% CI)	WOMEN OR (95% CI)
Household composition		
Not live alone		
Live alone	0.6 (0.2, 1.5)	0.6 (0.3, 1.3)
Housing tenure		
Own home		
Not own home	2.2 (0.9, 5.6)	1.1 (0.5, 2.2)
Annual equivalised income		
Q4 (≥$36,000)		
Q3 ($26,000-35,999)	1.2 (0.4, 3.4)	0.4 (0.1, 1.0)*
Q2 ($22,101-25,999)	0.8 (0.3, 2.5)	0.6 (0.2, 1.4)
Q1(≤ $22,100)	0.7 (0.2, 2.5)	0.6 (0.2, 1.4)
Country of birth		
English speaking		
Non-English speaking	1.5 (0.5, 4.2)	0.9 (0.3, 2.5)
Level of education		
Year 12 and above		
Year 11 and below	1.3 (0.6, 2.9)	1.2 (0.6, 2.4)
Disability status		
No disability		
Disability	1.4 (0.6, 3.4)	0.5 (0.2, 1.1)
Neighbourhood disadvantage		
Q5 (advantaged)		
Q1-4	1.0 (0.3, 3.1)	1.1 (0.4, 2.6)

Notes: excluded because they missed one or more of the survey items n= 83; Included men n= 127; women n= 180; Logistic regression controlling for age and clustering

* p value < 0.05

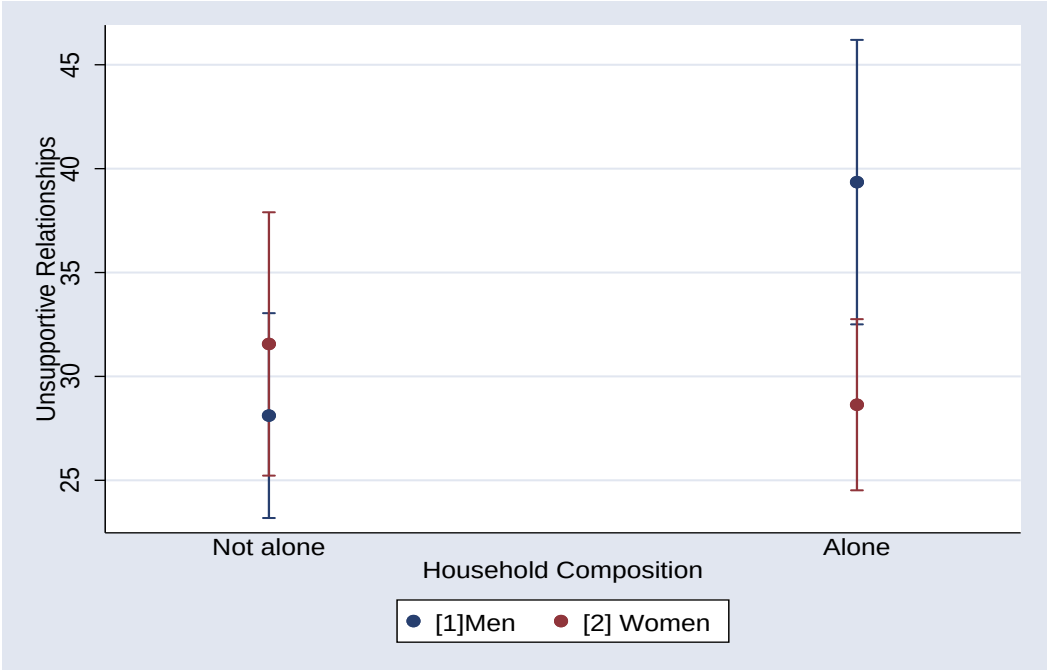
Exploratory Gender Interactions Between Sociodemographic Characteristics and Vulnerability to Social Exclusion Among the Oldest Old

Although previous research has found that women and men experience and perceive aspects of social exclusion differently, gender stratification is an under researched aspect of quantitative social exclusion studies of older people (Walsh et al., 2017). The quantitative analysis addressed this gap by performing exploratory gender interactions. Some associations between the sociodemographic characteristics and vulnerability to social exclusion were different for men and women, and this formed the basis for stratifying for gender throughout the quantitative analysis.

Figure 4.7 demonstrates this by presenting the association between perceived unsupportive relationships and household composition for men and women. Women who lived alone (compared to women who lived in a multi-person household) perceived higher levels of supportive relationships, whereas men who live in multi-person households (compared with men who live alone) perceived higher levels of supportive relationships.

Figure 4.7

Perceived Unsupportive Relationships and Household Compositions, by Gender (means scale score and 95% CI).



4.2.6 Determinants of Vulnerability to Social Exclusion – Main Predictor Variables

It is recognised that vulnerability to social exclusion is likely to differ by socio-demographic characteristics. The review of literature identified key individual- and neighbourhood-level variables relevant to the study of social exclusion amongst older adults (Barnes, 2006; Kneale, 2012). My proposed conceptual model guided the selection and use of the key determinants for this quantitative study: household composition, housing tenure, annual equivalised income, English proficiency, highest level of education obtained, long term disability or health condition, and neighbourhood disadvantage. These determinants were derived from variables available in HILDA (refer to Appendix B for wording of HILDA questions). The next section provides a brief explanation of how the socio-demographic variables were constructed.

Individual-level Determinants of Social Exclusion

Household Composition. Approximately half of Australians aged 85 and older live alone (Australian Institute of Health and Welfare, 2017). This is greater than any other age group. Living alone is often cited as a risk factor for social exclusion, as it is assumed there is less opportunity for social interaction (Barnes 2006). However, living alone should not be assumed to increase feelings of social exclusion nor be equated with social exclusion, as some older people have good friendships and supportive neighbours (Carr, 2019), whilst others despite being alone, do not consider themselves to be lonely (Graneheim & Lundman, 2010). Household composition information was obtained from respondents indicating who they reside with. The survey responses were coded into live alone or multiple-person households (not live alone).

Housing Tenure. Living in public housing is commonly reported as a risk factor for social exclusion (Stone & Reynolds, 2012). Private renters face additional stresses, such as ability to afford rent and security of tenure (Morris, 2018). It was assumed that home ownership, compared to renting and public housing, would encourage greater feelings of social inclusion. Housing tenure was derived from a question with three main categories, (1) own/currently paying off mortgage, (2) rent or pay board or (3) live here rent free. The latter two categories were recoded into “not own home”.

Annual Equivalised Income. Income insecurity is a common dimension of social exclusion (Van Regenmortel et al., 2018). Not having enough money to pay for leisure and

recreational activities is frequently cited as a barrier in older persons decisions to participate in activities (Barnes, 2006; Sacker et al., 2017). Annual equivalised income was measured by grouping annual equivalisation of (disposable) income into quantiles. This was viewed as an indicator of the economic resources available to each person in a household (i.e. income minus tax). For a lone person household, annual equivalised income it is equal to total household income (Australian Bureau of Statistics, a., 2019).

Country of Birth. Due to assumed low English literacy, older people from CALD backgrounds are considered to have greater obstacles accessing resources and being included in society (Federation of Ethnic Communities' Councils of Australia, 2015). For immigrants, developing new social networks may be compromised by lack of language fluency (Wong et al 2005). However, some researchers have proposed that in older age shared cultural solidarity is perhaps more important than integration into broader society (Maynard 2008). Country of birth was used as a proxy indicator for English proficiency. Respondents were grouped according to whether they were born in a country where English was the main language spoken, or not.

Level of Education. Education is frequently used as a measure of SEP as it is considered a strong determinant of future employment and income (Dutton et al., 2005). Educational opportunities vary between birth cohorts. Affordability of education and gender equality has seen an increase of educational opportunities over recent decades, especially for women. Level of education was obtained from the recorded highest education level achieved, using a nine-category measure, that was subsequently coded as completed year 11 and below (the lowest option) or completed year 12 and higher. In Australia in the 1930s and 1940s , schooling was only compulsory for primary school students (ABSb., 2019), hence creating a bivariate measure of education reflects the historical norm of primary school being the most common level of education completed among persons aged 85 and older.

Disability Status. Both age-related disability and long-term disability have been cited as associated with social exclusion (Sacker et al., 2017). Age-related impairments such as hearing and vision loss can impact on successful communication and the stigma associated with conditions such as incontinence can lead to curtailing social interaction (Hawthorne, 2008). Presence of disability was measured from respondents indicating that they had a disability or a long-term health concern. Respondents were grouped according to whether they reported a disability or long-term health condition, or not.

Neighbourhood-Level Determinants of Social Exclusion

Neighbourhood disadvantage. It is generally understood that feelings of belonging and safety increase social inclusion (Portacolone et al., 2018; Walker & Hiller, 2007), and this is more common for people living in advantaged than disadvantaged neighbourhoods (Scharf et al., 2002; Walker & Hiller, 2007). The Socio-Economic Index for Areas (SEIFA index) was developed by the Australian Bureau of Statistics. SEIFA pools information about the economic and social circumstances of people and households within an area (ABSc., 2018). Neighbourhood disadvantage was measured using the SEIFA index, where Quintile 1 denotes the 20% most advantaged areas in Australia relative to the rest of the country. Australian researchers have posited that the measures used in creating the SEIFA index (e.g. proportion unemployed) are not particularly relevant to older adult's experience of neighbourhood disadvantage (Gong et al., 2014). In an attempt to differentiate between a more extreme neighbourhood-level of disadvantage, neighbourhood disadvantage was dichotomised into the categories most advantaged (i.e. Quintile 5) and the other levels of neighbourhood disadvantage (i.e. Quintiles 1-4).

4.2.7 Demographic Characteristics of the Sample by Gender

Table 4.4 provides an overview of the demographic characteristics of the sample of oldest old Australians (n=307) by gender. A chi-square test of association was conducted to assess whether there were statistically significant differences between men and women. The gender distribution of the study sample shows there were more women aged 85 or more than men. Compared to women, men were more than twice as likely to live with others; however, men and women had similar housing tenure, income, country of birth, and lived in neighbourhoods with a similar socioeconomic profile. Men were approximately twice as likely as women to have completed higher levels of education, and they were less likely than women to report a long-term health condition or disability. Overall, most persons aged 85 and over (80% of men and 74% of women), owned their home or were currently paying off their mortgage. Further analysis found that 8% of men and 8% of women rented from a private landlord, 3% of men and 3% of women rented from a government housing authority (i.e. Public Housing), and 2% of men and 6% of women rented from a community co-operative or housing group.

Table 4.4

Sociodemographic Characteristics of the Study Sample, by Gender: Australians Aged 85 and Older

	Total N=307	Men (%) n=127	Women (%) n=180
Household composition			
Not live alone	140 (46)	85 (67)	55 (31)
Live alone	167 (54)***	42 (33)	125 (69)
Housing tenure			
Own home	235 (77)	101 (80)	134 (74)
Not own home	72 (34)	26 (20)	46 (26)
Annual equivalised income			
Q4 (≥$36,000)	78 (25)	30 (24)	46 (26)
Q3 ($26,000-35,999)	76 (25)	37 (29)	40 (22)
Q2 ($22,101-25,999)	77 (25)	35 (28)	41 (23)
Q1(≤ $22,100)	76 (25)	25 (20)	53 (29)
Country of birth			
English speaking	266 (87)	108 (85)	158 (88)
Non-English speaking	41 (13)	19 (15)	22 (12)
Level of education			
Year 12 and above	179 (58)	73 (57)	55 (31)
Year 11 and below	128 (42)***	54 (43)	125 (69)
Disability status			
No disability	74 (24)	43 (34)	31 (17)
Disability	233 (76)***	84 (66)	149 (83)
Neighbourhood disadvantage			
Q5 (advantaged)	50 (16)	20 (16)	30 (17)
Q1-4	257 (84)	107 (84)	150 (83)

Note: difference between men and women *p≤ 0.05**p≤ 0.01, ***p≤ 0.001

Control Variables

Age was considered a confounding variable in the relationship between individual- and neighbourhood-level characteristics and social exclusion. This approach departs from other older age social exclusion studies that stratify age into categories, such as older than 50, 60, and 65 (Jehoel-Gijsbers & Vrooman, 2008; Scharf et al., 2005b; Tomaszewski, 2013). The limited age range of the analytical sample (range 85 to 99; mean = 88; SD=3) and sample size contributed to the decision to control for age rather than stratify by this factor.

4.2.8 Health and Wellbeing Measures Used in this Thesis

The posited causal pathway between health and wellbeing and social exclusion differs in the literature. Depending on the research question, some assign health and wellbeing as a determinant of exclusion (Riyana & Peng, 2015), whilst others posit health as an outcome (Saunder, 2015), or a measure/domain of social exclusion (Levitas, 2007). It is possible that social exclusion may contribute to poor health; in particular poor psychological wellbeing (Berry & Welsh, 2010). It is also plausible that poor health results in social exclusion, as poor health may make it more difficult to participate in society. For example, the role of sensory deprivation such as hearing and vision loss have been related to withdrawal, or self-exclusion from social participation (Mick et al., 2018). Conversely, it has also been found that poor health or disability may lead to strengthened ties, as family and friends rally around (Jean-François et al., 2007). Subsequently it is difficult to predict the nature or direction of the association between social exclusion and health amongst the oldest old; both directions are possible. Longitudinal data may be able to identify the direction of relationships. Guided by the proposed conceptual framework presented in Chapter 3, this thesis conceptualises health and wellbeing as an outcome of social exclusion. Self-reported perceived health and wellbeing was measured via two items: general health, and mental health.

General Health

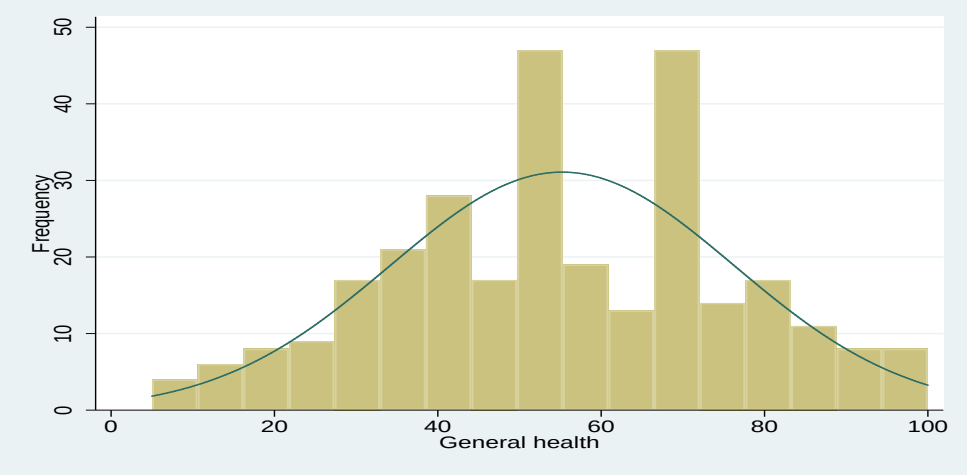
The general health measure was constructed using the general health subscale of the 36 Item Short Form Survey (SF-36). The SF 36 is a widely used and extensively validated health screening instrument of patient-reported health. HILDA's general health measure is constructed from 5 items that ask respondents about their health:

1. Rating their general health (ranging from 1 = excellent to, 5= poor)
2. I get sick a little easier than other people (choose true or false)
3. I am as healthy as anybody I know (choose true or false)
4. I expect my health to get worse (choose true or false)
5. My health is excellent (choose true or false)

The derived raw scale scores were calculated by summing across the items in the same scale; and these raw scores were transformed to a 0 - 100 scale, with higher scores denoting better health. The mean for this scale is 55.3 (SD= 21.1; 95 % CI= 52.8 – 57.6). These scores were lower compared with the overall HILDA sample probably due to the age of the sample. For example, the HILDA wave 16, general health mean was 67 (age range 15-99, n=16,094). A t-test comparing differences between men and women found no statistically significant differences. The distribution of the general health scale is depicted in Figure 4.8.

Figure 4.8

Distribution of General Health Scale



Note: Higher scores denote better general health

Mental Health

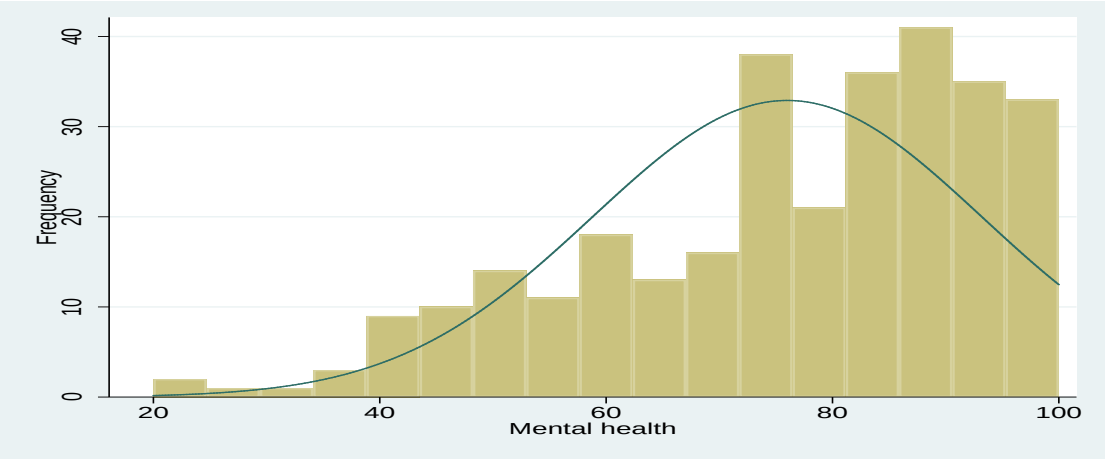
A continuous measure of mental health was constructed from the five-item version of the Mental Health Inventory (MHI-5) in HILDA, which is part of the SF-36. The Mental Health measure is a validated and widely used instrument to measure depression and anxiety (Butterworth and Crosier, 2004; Berwick et al., 1991). The five items ask respondents how they have been feeling. Respondents are asked to indicate how true or false the following statements are during the last four weeks:

1. Been a nervous person
2. Felt so down in the dumps nothing could cheer you up
3. Felt calm and peaceful
4. Felt down
5. Been a happy person.

The derived raw scale scores from HILDA were calculated by summing across the items; and these raw scores were transformed to a 0- 100 scale; with higher scores denoting better mental health. The mean of the mental health scale is 76.0 (SD= 17.2; 95% CI = 74.05 – 78.0). The distribution of the mental health scale is depicted in the graph below (Figure 4.9). Of note, most respondents report high levels of mental health. In comparison the mean score for mental health was 73 for all wave 16 HILDA respondents (age 15 -99, N=16,203). A t-test comparing differences between men and women found no statistically significant differences.

Figure 4.9

Distribution of Mental Health Scale



Note: Higher scores denote better mental health

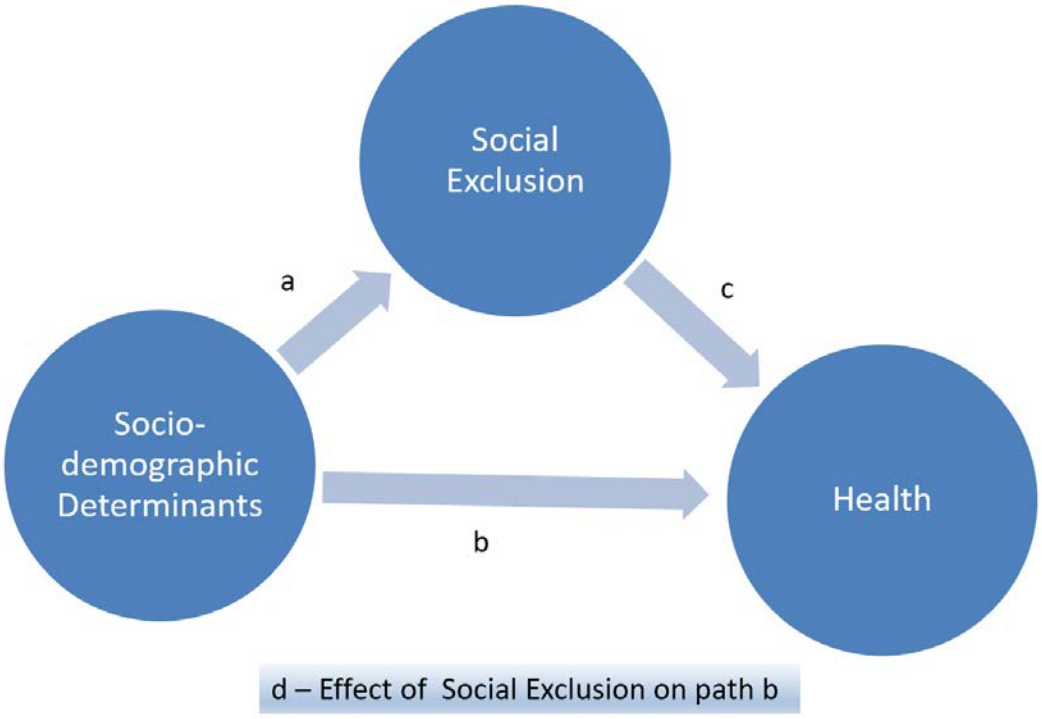
4.3 Analytical Plan for the Quantitative Study

This next section describes the analytical plan and statistical analysis used. The analytical plan was structured to examine each aspect of the research questions. Figure 4.10 depicts the quantitative analysis used for this thesis.

1. What is the association between individual and neighbourhood-level sociodemographic factors and social exclusion? (a)
2. What is the association between individual and neighbourhood-level sociodemographic factors and health? (b)
3. What is the association between social exclusion and health? (c)
4. What contribution does social exclusion make to the association between individual and neighbourhood-level sociodemographic factors and health ? (d)

Figure 4.10

Diagrammatic Representation of the Analytic Strategy Used to Answer the Research Questions



4.3.1 Descriptive Analysis

Stratified by gender, several analyses are conducted to examine the relationship between individual and neighbourhood-level characteristics and social exclusion (path a) and, health (path b). In the first instance, statistics are presented which describe the data being analysed and typically include measures of central tendency (e.g. mean, median, mode) and variability (e.g. standard deviation and confidence intervals).

A one-way analysis of variance (ANOVA) with post-hoc Bonferroni multiple comparison test was used to determine whether there were any differences between independent variables on their scores of social exclusion. Higher level SEP and the most advantaged neighbourhoods were the reference categories. Linear regression analysis was used to demonstrate an association between the independent and outcome variables. The regression results are presented as regression coefficients and their 95% confidence intervals.

4.3.2 Multivariable Analysis

Multiple linear regressions were conducted for men and women separately and in two stages: Model 1 adjusted for age and clustering, and Model 2 simultaneously adjusted for all other covariates and clustering. Conducting the regression in different stages enables examination of the strength of the association between independent and outcome variables. It can assess whether adjusting for variables attenuates the association, referring to reducing the strength of the association, or conversely, suppress the association, referring to increasing the magnitude of an effect (Tabachnick & Fidell, 2014). The results are presented as regression coefficients and their 95% confidence intervals. All analyses were undertaken using STATA / SE release 15.1 (StataCorp, 2017).

Using a statistical function available in STATA (*vce* cluster), robust standard errors were used to adjust for clustering/ degree of dependence of the household sampling unit used in HILDA. Exploratory analysis revealed little household clustering. For example, of the 309 households with participants aged 85 years and older in the study, only six households were comprised of two or more people. This reflects the high proportion of the analytical sample living in single person households. Most participants lived in different neighbourhoods at the

Statistical Area Level 1 (SA1[8]), which refers to a geographic area defined by the Australian Bureau of Statistics. On average in the Australian population in general, SA1 consist of about 400 people (Australian Bureau of Statistics, 2018b).

The multivariable analyses was conducted in two stages. The first step identified which individual and neighbourhood socio-demographic variables are associated with higher scores on the five indirect measures of social exclusion (path a). Next, a series of two linear regression models were performed to examine the association between individual and neighbourhood-level determinants and health (path b).

4.3.3 Investigating Interactions between Sociodemographic Factors, Social Exclusion, and Health - Effect Modification Analysis

It is hypothesized that part of the association between sociodemographic factors and health will be explained by differences in perceived social exclusion levels. The findings may have implications for policy that aims to reduce individual and neighbourhood-level health inequalities, offering a potential point of intervention: reducing social exclusion. This type of examination is well suited to effect modifier analysis (Aschengrau & Seage, 2013). Social exclusion was considered as an effect modifier, whereby the magnitude of the association between the primary exposure (individual and neighbourhood-level characteristics) and an outcome (health) differs depending on the level of a third variable (social exclusion). The social exclusion measures were operationalised as continuous variables and only statistically significant interactions are presented graphically.

A series of steps were undertaken to examine if social exclusion modified the association between individual and neighbourhood-level characteristics and health (path d). The relationship between the social exclusion and health measures were also explored via the series of linear regressions performed as part of the interaction modelling (path c). The main effects (Model 1) presents the association between social exclusion measures and (i) general health and (ii) mental health.

[8] Limited evidence of clustering at the neighbourhood level as SA1 contained between 1 and 6 respondents

In step one, regression analysis was conducted to show the main effects. Step two involved including an interaction term between social exclusion, and the primary exposure. A likelihood ratio test was used to examine whether the association between individual and neighbourhood-level characteristics and health (Model 1) differs by level of social exclusion (Model 2). A more conservative p value of $p \leq 0.1$ was used in the interaction model to reduce the likelihood of a Type 1 error, reflecting the small sample size.

4.4 Chapter Summary

This chapter presented the methods for the quantitative study of social exclusion among community dwelling oldest old. The sample, data collection and analysis methods were presented. The justification for using a cross-sectional analysis of a national data source (Housing, Income and Labour Dynamics in Australia wave 16, n= 307) to examine whether individual and neighbourhood-level characteristics are associated with perceived social exclusion and whether these factors are related to health, was outlined. Noting theoretical and conceptual understandings of social exclusion the indirect measures of vulnerability to social exclusion covered perceived unsupportive relationships, perceived neighbourhood exclusion and community disengagement, and were derived via Principal Components Analysis. Individual level characteristics were household composition, housing tenure, annual equivalised income, country of birth, level of education, and disability status. The neighbourhood-level characteristic was neighbourhood disadvantage.

Chapter 5: Quantitative Study - Results

This chapter presents the quantitative study results - an investigation of whether individual- and neighbourhood-level characteristics are associated with perceived social exclusion, and whether these factors are related to health. The findings presented in this chapter are structured around the quantitative research questions. Data were analysed separately for women and men, given the theoretical argument that women and men are likely to experience and perceive vulnerability to social exclusion differently (Jose & Cherayi, 2017).

5.1 Association Between Individual- and Neighbourhood-Level Sociodemographic Factors and Social Exclusion

5.1.1 Unsupportive Relationships

Descriptive Results. Table 5.1 presents the mean scores and mean differences (MD) between individual- and neighbourhood-level characteristics and unsupportive relationships for men and women.

Men. Among men, statistically significant differences were observed between household composition and unsupportive relationships. On average, perceived unsupportive relationships were higher among men who lived alone, compared with men living in multi-person households. No statistically significant differences were observed between unsupportive relationships and housing tenure, annual equivalised income, country of birth, level of education, disability status, and neighbourhood disadvantage.

Women. Statistically significant differences were observed between disability status and unsupportive relationships. On average, women with a disability, compared with those with no disability, had heightened perceptions of unsupportive relationships. There were no significant associations between unsupportive relationships and household composition, housing tenure, income, English proficiency, education, and neighbourhood disadvantage.

Table 5.1

Bivariate Relationship Between Individual and Neighbourhood-level Characteristics and Unsupportive Relationships for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not live alone (R)	28.1 (23.5, 32.8)		31.6 (25.2, 38.0)	
Live alone	39.4 (31.2, 47.5)**	11.3	28.6 (24.7, 32.6)	-3.0
Housing tenure				
Own home (R)	31.6 (26.9, 36.4)		29.3 (25.5, 33.0)	
Not own home	33.2 (23.6, 42.7)	1.6	30.2 (22.9, 37.6)	0.9
Annual equivalised income				
Q4 (highest) (R)	29.1 (21.7, 36.5)		26.1 (19.2, 33.0)	
Q3	33.9 (26.4, 41.3)	4.8	29.1 (22.8, 35.5)	3.0
Q2	33.4 (24.2, 42.7)	4.3	29.7 (22.7, 36.8)	3.6
Q1 (lowest)	30.7 (20.6, 40.7)	1.6	32.7 (26.2, 39.2)	6.6
Country of birth				
English speaking (R)	32.5 (27.8, 37.3)		28.5 (25.0, 32.0)	
Non-English	28.5 (19.6, 37.4)	-4.0	36.7 (26.2, 47.2)	8.2
Level of education				
Year 12 > (R)	32.0 (26.5, 37.4)		25.6 (20.3, 30.8)	
Year 11 and below	31.9 (25.2, 38.7)	-0.1	31.3 (27.1, 35.6)	5.8
Disability status				
No disability (R)	28.7 (22.1, 35.2)		21.7 (14.3, 29.0)	
Disability	33.6 (28.2, 39.0)	4.9	31.0 (27.3, 34.7)*	9.3
Neighbourhood disadvantage				
Q5 (advantaged) (R)	24.1 (13.1, 35.1)		28.8 (20.7, 36.9)	
Q1-4	33.5 (28.9, 38.0)	9.4	29.7 (26.0, 33.3)	0.9

Notes: Mean adjusted for clustering; MD = mean difference from the reference category; (R) = reference category

*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Table 5.2 presents multivariable associations between individual and neighbourhood-level characteristics and unsupportive relationships for men and women.

Men. A statistically significant association was observed between household composition and unsupportive relationships (Model 1 and 2). After adjustment for age and clustering (Model 1), men who lived alone were more likely to report experiencing unsupportive relationships compared with men who did not live alone. This relationship remained largely unchanged after adjustment for covariates variables (Model 2). There were no significant associations found between unsupportive relationships and housing tenure, annual equivalised income, English proficiency, level of education, and disability status.

A statistically significant association was observed between neighbourhood disadvantage and unsupportive relationships; however, this was only observed after simultaneous adjustment for all variables (Model 2). Men who resided in more disadvantaged neighbourhoods were more likely to report unsupportive relationships than their counterparts who resided in the most advantaged neighbourhoods.

Women. A statistically significant difference was observed between disability status and unsupportive relationships. Women with a disability were more likely to report experiencing unsupportive relationships than their non-disabled counterparts: this association was observed, and remained largely unchanged, before (Model 1) and after simultaneous adjustment for all variables (Model 2). There were no significant associations between unsupportive relationships and household composition, housing tenure, English proficiency, income, education and neighbourhood disadvantage.

Table 5.2

Multivariable Association Between Individual and Neighbourhood-level Characteristics and Perceived Unsupportive Relationships for Men and Women

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
	β (95%CI)	β (95%CI)	β (95%CI)	β (95%CI)
Household composition				
Not live alone (R)	Ref		Ref	
Live alone	11.6 (2.1, 21.0)*	13.5 (3.7, 23.3)**	-2.8 (-10.4, 4.9)	-1.7 (-9.6, 6.1)
Housing tenure				
Own home (R)	Ref		Ref	
Not own home	2.0 (-8.8, 12.7)	2.0 (-9.3, 13.3)	1.7 (-6.7, 9.9)	0.5 (-9.2, 9.1)
Annual equivalised income				
Q4 (highest) (R)	Ref		Ref	
Q3	3.0 (-7.9, 13.8)	4.2 (-6.8, 15.1)	3.2 (-6.2, 12.5)	3.7 (-5.9, 13.3)
Q2	4.0 (-7.6, 15.7)	1.1 (-11.4, 13.7)	3.4 (-6.4, 13.1)	2.6 (-7.5, 12.6)
Q1 (lowest)	1.8 (-10.5, 14.1)	2.4 (-11.8, 16.5)	6.3 (-3.2, 15.8)	5.3 (-3.8 ,14.3)
Country of birth				
English speaking (R)	Ref		Ref	
Non-English Speaking	-3.9 (-14.3, 6.4)	-3.5 (-13.5, 6.5)	8.5 (-2.4, 19.4)	8.2 (-3.1, 19.5)
Level of education				
Year 12 > (R)	Ref		Ref	
Year 11 and below	-0.4 (-8.9, 8.2)	-3.1 (-12.7, 6.6)	5.9 (-0.9, 12.8)	6.5 (-0.3, 13.2)
Disability status				
No disability (R)	Ref		Ref	
Disability	5.4 (-2.9, 13.7)	7.2 (-1.5, 15.9)	9.1 (0.9, 17.3)*	8.5 (0.0, 17.0)*
Neighbourhood disadvantage				
Q5 (advantaged) (R)	Ref		Ref	
Q1-4	9.7 (-2.0, 21.5)	11.9 (0.2, 23.6)*	1.0 (-8.0, 10.1)	0.3 (-9.2, 9.8)

Notes: Model 1: Linear regression controlling for age & adjusted for clustering; Model 2: Model 1 plus adjustment for all other covariates ; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.1.2 Perceived Neighbourhood Noise

***Descriptive Results*.** Table 5.3 examines the mean scores and mean differences between individual and neighbourhood-level characteristics and neighbourhood noise.

Men and Women. For men and women: no statistically significant associations were observed. These results suggest that for both men and women, perceptions of neighbourhood noise were similar irrespective of household composition, housing tenure, income level, country of birth, education and disability status, and whether one lived in an advantaged or disadvantaged neighbourhood.

Table 5.3

Bivariate Relationship Between Individual and Neighbourhood-level Characteristics and Neighbourhood Noise for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not live alone (R)	37.0 (31.5, 42.5)		38.6 (32.6, 44.6)	
Live alone	39.9 (33.7, 46.2)	3.0	36.9 (32.4, 41.5)	-1.7
Housing tenure				
Own home (R)	37.7 (33.1, 42.3)		36.6 (32.6, 40.6)	
Not own home	39.2 (28.8, 49.6)	1.5	39.9 (31.4, 48.3)	3.3
Annual equivalised income				
Q4 (highest) (R)	36.7 (29.3, 44.2)		38.7 (31.5, 45.9)	
Q3	40.7 (33.4, 48.0)	3.9	33.6 (25.9, 41.3)	-5.1
Q2	34.3 (25.6, 43.0)	-2.4	38.0 (31.5, 44.5)	-0.7
Q1 (lowest)	40.7 (29.8, 51.5)	3.9	38.7 (31.2, 46.3)	0.1
Country of birth				
English speaking (R)	37.6 (33.1, 42.0)		37.9 (34.0, 41.8)	
Non-English	40.6 (27.8, 53.3)	3.0	33.9 (22.9, 44.9)	-4.0
Level of education				
Year 12 > (R)	39.0 (33.6, 44.4)		33.3 (27.0, 39.5)	
Year 11 and below	36.6 (29.9, 43.3)	-2.4	39.3 (34.8, 43.8)	6.0
Disability status				
No disability (R)	37.2 (30.1, 44.4)		38.8 (29.4, 48.2)	
Disability	38.4 (33.2, 43.6)	1.2	37.1 (33.2, 41.1)	-1.7
Neighbourhood disadvantage				
Q5 (advantaged) (R)	36.8 (28.3, 45.4)		33.6 (26.0, 41.2)	
Q1-4	38.2 (34.1, 42.3)	1.4	38.2 (34.1, 42.3)	4.6

Notes: Mean adjusted for clustering; MD = mean difference from the reference category;
(R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Multivariable Results. Table 5.4 examines multivariable associations between individual and neighbourhood-level characteristics and neighbourhood noise for men and women. For both genders there were no statistically significant associations.

Table 5.4

Multivariable Association Between Individual and Neighbourhood-level Characteristics and Neighbourhood Noise for Men and Women

	MEN		WOMEN	
	Model 1 B (95%CI)	Model 2 β (95%CI)	Model 1 β (95%CI)	Model 2 β (95%CI)
Household composition				
Not live alone(R)	Ref		Ref	
Live alone	3.4 (-5.0, 11.7)	4.64 (-4.4, 13.2)	-1.8 (-9.7, 6.1)	-3.4 (-12.3, 5.5)
Housing tenure				
Own home (R)	Ref		Ref	
Not own home	1.6 (-9.9, 13.1)	1.8 (-11.0, 14.5)	2.8 (-6.5, 12.1)	3.3 (-6.7, 13.3)
Annual equivalised income				
Q4 (highest) (R)	Ref		Ref	
Q3	2.7 (-8.4, 13.8)	3.2 (-9.2, 15.7)	-5.3 (-16.1, 5.5)	-6.0 (-17.1, 5.1)
Q2	-2.6 (-13.8, 8.7)	-2.8 (-15.8, 10.1)	-0.3 (-10.0, 9.3)	-1.5 (-12.1, 9.1)
Q1 (lowest)	3.8 (-9.6, 17.1)	4.1 (-10.4, 18.6)	0.4 (-9.9, 10.6)	0.8 (-10.6, 12.1)
Country of birth				
English speaking (R)	Ref		Ref	
Non-English	2.7(-10.1, 15.6)	1.3 (-12.4, 15.0)	-4.1 (-15.6, 7.4)	-4.4 (-16.9, 8.1)
Level of education				
Year 12> (R)	Ref		Ref	
Below Year 11	-2.6 (-11.4, 6.1)	-3.0 (-12.6, 15.0)	6.0 (-1.3, 13.3)	5.2 (-2.5, 12.8)
Disability status				
No disability (R)	Ref		Ref	
Disability	1.5 (-7.5, 10.5)	2.8 (-7.4, 12.9)	-1.6 (-12, 8.8)	-2.2 (-13.0, 8.5)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	Ref		Ref	
Q1-4	1.4 (-8.3, 11.2)	3.7 (-8.4, 15.8)	4.35 (-4.7, 13.4)	3.4 (-6.9, 13.6)

Notes: Model 1: Linear regression controlling for age & adjusted for clustering; Model 2: Model 1 plus adjustment for all other covariates; (R) = reference category

*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.1.3 Neighbourhood Crime

***Descriptive Results*.** Table 5.5 examines the mean scores and mean differences between individual and neighbourhood-level characteristics and perceived neighbourhood crime for men and women.

Men. No statistically significant associations were found for men between perceived neighbourhood crime and individual and neighbourhood-level characteristics.

Women. Among women, a significant relationship was observed between education and perceived neighbourhood crime; women with lower education, scored on average, higher on the perceived neighbourhood crime scale, suggesting that women with lower education have more concerns with their safety than those with higher levels of education. No statistically significant observations were observed between perceived neighbourhood crime and household composition, housing tenure, income level, country of birth, disability status, and neighbourhood disadvantage.

Table 5.5

Bivariate Relationship Between Individual and Neighbourhood-level Characteristics and Perceived Neighbourhood Crime for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not live alone (R)	27.0 (22.0, 31.9)		29.1 (21.9, 36.4)	
Live alone	29.4 (22.0, 36.8)	2.4	28.4 (24.0, 32.9)	-0.7
Housing tenure				
Own home (R)	27.8 (23.3, 32.4)		27.9 (23.9, 31.8)	
Not own home	27.7 (18.3, 37.3)	-0.1	31.0 (21.4, 40.6)	3.1
Annual equivalised income				
Q4 (highest) (R))	29.8 (22.4, 37.1)		31.1 (23.4, 38.8)	
Q3	27.3 (19.8, 34.7)	-2.5	28.1 (20.2, 36.0)	-3.0
Q2	23.6 (15.8, 31.4)	-6.2	30.0 (21.9, 38.1)	-1.1
Q1 (lowest)	32.7 (22.1, 43.3)	3.0	25.8 (18.8, 32.8)	-5.3
Country of birth				
English speaking (R)	27.8 (23.6, 32.0)		28.7 (24.7, 32.7)	
Non English Speaking	27.9 (13.7, 42.1)	0.1	27.9 (16.2, 39.5)	-0.9
Level of education				
Year 12 > (R)	28.5 (23.2, 33.8)		22.9 (17.4, 28.4)	
Year 11 and below	26.9 (20.4, 33.5	-1.5	31.1 (26.2, 35.9)*	8.1
Disability status				
No disability (R)	24.7 (18.8, 30.6)		28.5 (20.6, 36.4)	
Disability	29.5 (24.0, 34.9)	4.8	28.6 (24.4, 32.9)	0.1
Neighbourhood disadvantage				
Q5 (advantaged) (R)	21.0 (12.9, 29.2)		21.5 (13.7, 29.2)	
Q1-4	28.9 (24.4, 33.5)	7.9	29.9 (25.7, 34.1)	8.5

Notes: Mean adjusted for clustering; MD = mean difference from the reference category; (R) = reference category

*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Multivariable Results. Table 5.6 examines multivariable associations between individual and neighbourhood-level characteristics and perceived neighbourhood crime for men and women.

Men. For men, there were no significant associations between perceived neighbourhood crime and household composition, housing tenure, annual equivalised income, country of birth, level of education and disability status. After adjustment for covariates (Model 2), there was a significant association between neighbourhood disadvantage and perceived neighbourhood crime. Men living in socio-economically disadvantaged neighbourhoods, compared to most advantaged neighbourhood, on average reported greater concerns with safety.

Women. For women, there were no significant associations found between neighbourhood crime and household composition, housing tenure, annual equivalised income and country of birth. After adjustment for age and clustering (Model 1), women with lower education on average perceived more concerns with their safety than those with higher levels of education. However, the statistically significant difference was attenuated to the null after adjustment for all variables (Model 2). For women, there were no significant associations between neighbourhood crime and disability status nor neighbourhood disadvantage.

Table 5.6

Multivariable Association Between Individual and Neighbourhood-level Characteristics and Neighbourhood Crime for Men and Women

	MEN		WOMEN	
	Model 1 β (95%CI)	Model 2 β (95%CI)	Model 1 β (95%CI)	Model 2 β (95%CI)
Household composition				
Not live alone (R)	Ref		Ref	
Live alone	3.2 (-5.7, 12.2)	5.0 (-4.3, 14.2)	-0.8 (-9.4, 7.8)	0.0 (-9.0, 8.9)
Housing tenure				
Own home (R)	Ref		Ref	
Not own home	-0.2 (-10.8, 10.5)	-2.0 (-13.3, 9.3)	3.0 (-7.6, 13.7)	4.2 (-6.2, 14.6)
Annual equivalised Income				
Q4 (highest) (R)	Ref		Ref	
Q3	-3.3 (-13.9, 7.2)	-4.6 (-17.1, 7.9)	-3.0 (-13.9, 7.9)	-4.6 (-15.4, 6.2)
Q2	-5.6 (-17, 5.8)	-8.7 (-22.0, 4.5)	-1.0 (-12.2, 10.2)	-3.9 (-15.3, 7.4)
Q1 (lowest)	3.5 (-9.6, 16.6)	3.7 (-10.0, 17.4)	-5.2 (-15.5, 5.1)	-7.2 (-17.9, 3.5)
Country of birth				
English speaking (R)	Ref		Ref	
Non-English speaking	-0.8 (-15.9, 14.3)	-1.3 (-16.5, 13.8)	-0.9 (-13, 11.2)	0.5 (-11.4, 12.5)
Level of education				
Year 11 and above (R)	Ref		Ref	
Below Year 11	-1.8 (-10.2, 6.6)	-3.4 (-13.2, 6.4)	8.1 (0.7, 15.6)*	7.4 (-1.2, 15.9)
Disability status				
No disability (R)	Ref		Ref	
Disability	5.1 (-3.1, 13.3)	6.7 (-1.4, 14.7)	0.1 (-8.9, 9.0)	1.3 (-8.7, 11.4)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	Ref		Ref	
Q1-4	7.9 (-1.6, 17.5)	14.3(3.3, 25.2)**	8.4 (-0.4, 17.2)	6.7 (-2.6, 15.9)

Notes: Model 1: Linear regression controlling for age & adjusted for clustering; Model 2: Model 1 plus adjustment for all other covariates ; (R) = reference category;
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.1.4 Perceived Neighbourhood Incohesion

***Descriptive Results*.** Table 5.7 examines the mean scores and mean differences between individual and neighbourhood-level characteristics and neighbourhood incohesion for men and women.

Men. For men, there were no significant differences between neighbourhood incohesion and individual and neighbourhood-level characteristics. This suggest perceptions of neighbourhood incohesion were similar irrespective of household composition, housing tenure, income level, country of birth, education and disability status, and whether one lived in an advantaged or disadvantaged neighbourhood.

Women. For women, there were no significant associations found between neighbourhood incohesion and household composition, housing tenure, annual equivalised income, country of birth, level of education and disability status. A statistically significant relationship was observed between neighbourhood disadvantage and perceived neighbourhood incohesion. On average, women living in more advantaged neighbourhoods scored lower on the neighbourhood incohesion scale, indicating they perceived less cohesion compared to women living in the most disadvantaged neighbourhoods.

Table 5.7

Bivariate Relationship Between Individual and Neighbourhood-level Characteristics and Perceived Neighbourhood Incohesion for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not live alone (R)	38.0 (31.6, 44.3)		37.5 (31.1, 44.0)	
Live alone	44.4 (36.8, 51.9)	6.4	40.9 (35.7, 46.1)	3.4
Housing tenure				
Own home (R)	40.6 (35.1, 46.0)		39.4 (34.7, 44.0)	
Not own home	38.6 (27.2, 50.0)	-2.0	41.3 (32.4, 50.3)	1.9
Annual equivalised income				
Q4 (highest) (R)	46.8 (38.0, 55.6)		36.0 (27.5, 44.6)	
Q3	40.0 (33.0, 47.1)	-6.8	39.4 (31.1, 47.7)	3.4
Q2	42.7 (31.7, 53.8)	-4.1	42.2 (34.1, 50.4)	6.2
Q1 (lowest)	30.2 (18.5, 41.9)	-16.7	41.5 (33.4, 50.0)	5.4
Country of birth				
English speaking (R)	39.6 (34.3, 44.9)		38.4 (34, 42.7)	
Non-English Speaking	44.4 (31.6, 57.1)	4.8	50.2 (38.1, 62.3)	11.8
Level of education				
Year 12 > (R)	43.7 (37.4, 50.1)		37.2 (29.9, 44.6)	
Year 11 and below	34.9 (27.4, 42.3)	-8.8	41.2 (36.2, 46.2)	4.0
Disability status				
No disability (R)	41.1 (33.5, 48.2)		36.8 (25.3, 48.3)	
Disability	39.8 (33.3, 48.2)	-1.3	40.4 (36.0, 44.9)	3.6
Neighbourhood disadvantage				
Q5 (advantaged) (R)	43.1 (30.9, 55.3)		48.4 (39.9, 57.0)	
Q1-4	39.7 (34.4, 45.1)	-3.4	38.0 (33.3, 42.6)*	-10.4

Notes: Mean adjusted for clustering; MD = mean difference from the reference category;
(R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Multivariable Results. Table 5.8 examines the multivariable associations between individual and neighbourhood-level characteristics and neighbourhood incohesion for men and women.

Men. For men there were no significant differences between neighbourhood incohesion and household composition and housing tenure. A statistically significant relationship was observed between income and neighbourhood incohesion. Men with lower incomes had on average lower levels of vulnerability to neighbourhood incohesion, compared with their wealthier counterparts. This association was observed, and remained largely unchanged, before (Model 1) and after simultaneous adjustment for all variables (Model 2). There were no significant differences between neighbourhood incohesion and country of birth, level of education, disability status, and neighbourhood disadvantage.

Women. There were no significant associations between neighbourhood incohesion and household composition, housing tenure, annual equivalised income, country of birth, level of education and disability status.

A statistically significant association was observed between neighbourhood disadvantage and perceived neighbourhood incohesion. After adjustment for age and clustering (Model 1), women living in the least advantaged neighbourhoods compared to most advantaged neighbourhoods reported on average lower levels of neighbourhood incohesion. This relationship remained largely unchanged after simultaneous adjustment for all other variables (Model 2).

Table 5.8

Multivariable Association Between Individual and Neighbourhood-level Characteristics and Perceived Neighbourhood Incohesion for Men and Women

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
	β (95%CI)	β (95%CI)	β (95%CI)	β (95%CI)
Household composition				
Not live alone (R)	Ref		Ref	
Live alone	6.6 (-3.5, 16.7)	5.3 (-4.3, 15.0)	3.4 (-5.0, 11.9)	5.0 (-3.8, 13.9)
Housing tenure				
Own home (R)	Ref		Ref	
Not own home	-2.0 (-14.6, 10.6)	-0.9 (-14.0,12.1)	2.2 (-7.6, 12.0)	2.6 (-7.6, 12.9)
Annual equivalised income				
Q4 (highest) (R)	Ref		Ref	
Q3	-6.8 (-18.4, 4.8)	-5.6 (-18.3, 7.1)	3.4 (-9.0, 15.8)	5.0 (-7.3, 17.2)
Q2	-4.1 (-19.1, 10.8)	-2.6(-18.1, 12.9)	6.1 (-6.1, 18.3)	7.7 (-5.2, 20.7)
Q1 (lowest)	-16.7(-31.2,-2.2)*	-16.7 (-32,-1.3)*	5.4 (-6.8, 17.5)	3.0 (-9.6, 15.7)
Country of birth				
English speaking (R)	Ref		Ref	
Non-English	4.7 (-9.0, 18.5)	7.3 (-6.1, 20.7)	11.9 (-0.7, 24.5)	11.5 (-2.1, 25.0)
Level of education				
Year 11 and above	Ref		Ref	
Below Year 11	-8.9 (-18.7, 0.9)	-6.6 (-17.3, 4.2)	4.0 (-5.7, 13.7)	6.1 (-3.8, 15.9)
Disability status				
No disability (R)	Ref		Ref	
Disability	-1.3 (-11.4, 8.8)	0.0 (-10.5, 10.5)	3.8 (-8.4, 17.1)	4.4 (-8.4, 17.1)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	Ref		Ref	
Q1-4	6.6 (-3.5, 16.7)	0.1 (-14.6, 14.8)	-10.4 (-19.6,-1.2)**	-13.7(-23.9,-3.4)***

Notes: Model 1: Linear regression controlling for age & adjusted for clustering; Model 2: Model 1 plus adjustment for all other covariates ; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.1.5 Community Disengagement

***Descriptive Results*.** Table 5.9 examines the mean scores and mean differences between individual and neighbourhood-level characteristics and community disengagement for men and women.

Men. Level of education was significantly associated with community disengagement. Men with lower levels of education on average scored higher on the community disengagement scale, suggesting greater levels of community exclusion among this group. No statistically significant differences were observed between household composition, housing tenure, annual equivalised income, country of birth, disability status, neighbourhood disadvantage and unsupportive relationships.

Women. There was a significant association for women regarding household composition and community disengagement. On average, women living in multi-person households, scored lower on the community disengagement scale compared to women living alone. There were no statistically significant observations observed between housing tenure, annual equivalised income, country of birth and community disengagement for women. A statistically significant association was observed between level of education and community disengagement. Those with lower levels of education reported higher levels of community disengagement. A statistically significant association was observed between disability and community disengagement. Those with a disability reported on average higher on the community disengagement scale. No statistically significant observations were observed between neighbourhood disadvantage and community disengagement.

Table 5.9

Bivariate Relationship Between Sociodemographic Factors and Exclusion from Community Disengagement for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not live alone (R)	86.3 (82.6, 90.0)		88.1 (83.7, 92.5)	
Live alone	86.1 (79.6, 92.6)	-0.2	81.1 (76.6, 85.6)*	-7.0
Housing tenure				
Own home (R)	85.2 (81.3, 89.1)		81.2 (76.9, 85.4)	
Not own home	90.0 (85.6, 94.4)	4.8	88.9 (84.0, 93.8)	7.7
Annual equivalised income				
Q4 (highest) (R)	80.7 (72.6, 88.7)		77.7 (69.0, 86.3)	
Q3	87.6 (82.7, 92.4)	6.9	84.9 (78.6, 91.1)	7.2
Q2	89.4 (83.5, 95.3)	8.7	84.5 (77.9, 91.1)	6.8
Q1 (lowest)	86.3 (78.5, 94.0)	5.6	85.5 (79.8, 91.2)	7.8
Country of birth				
English speaking (R)	86.5 (82.8, 90.1)		82.5 (78.7, 86.2)	
Non-English speaking	84.7 (77.9, 91.5)	-1.7	88.2 (80.7, 95.7)	5.7
Level of education				
Year 11 and above (R)	82.7 (78.0, 87.4)		71.3 (63.6, 79.0)	
Below Year 11	90.9 (87.0, 95.0)**	8.3	88.6 (85.4, 91.7)**	17.3
Disability status				
No disability (R)	84.5 (79.8, 98.3)		74.5 (64.2, 84.8)	
Disability	87.1 (82.8, 91.4)	2.6	84.9 (81.4, 88.4)*	10.5
Neighbourhood disadvantage				
Q5 (advantaged) (R)	81.1 (69.5, 92.6)		82.0 (73.9, 90.1)	
Q1-4	87.1 (83.9, 90.4)	6.1	83.4 (79.6, 87.2)	1.4

Notes: Mean adjusted for clustering; MD is mean difference; (R) is reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Multivariable Results. Table 5.10 examines the multivariable associations between individual and neighbourhood-level characteristics and community disengagement for men and women.

Men. For men, there were no significant associations found between community disengagement and household composition, housing tenure, and annual equivalised income. A statistically significant association was observed between education level and community disengagement. After adjustment for age and clustering (Model 1), men with lower levels of education were more likely to report higher levels of community disengagement than their more educated counterparts. However, the statistically significant difference attenuated to the null after adjustment for all variables (Model 2). There were no significant associations observed for disability status and neighbourhood disadvantage and level of community disengagement.

Women. A statistically significant difference was observed between household composition and community disengagement. After adjustment for age and clustering (Model 1), women living in multi-person households compared to living alone were more likely to report higher levels of disengagement. This relationship remained largely unchanged after simultaneous adjustment for all other variables (Model 2). There were no significant associations found between housing tenure, annual equivalised income, and country of birth and community disengagement. A significant difference was observed between education and disengagement. Women with low levels of education were more likely to report experiencing community disengagement than their more educated counterparts: this association was observed, and remained largely unchanged, before (Model 1) and after simultaneous adjustment for all variables (Model 2). A significant difference was observed between disability status and community disengagement. After adjustment for age and clustering (Model 1), women who reported having a disability or long-term health condition were more likely to report experiencing community disengagement. However, this association was lost after simultaneous adjustment for all variables (Model 2). There were no significant associations observed for neighbourhood disadvantage and level of community disengagement for women.

Table 5.10

Multivariable Association Between Sociodemographic Factors and Community Disengagement for Men and Women

	MEN		WOMEN	
	Model 1 β (95%CI)	Model 2 β (95%CI)	Model 1 β (95%CI)	Model 2 β (95%CI)
Household				
Not live alone (R)	Ref		Ref	
Live alone	-0.4 (-7.9, 7.1)	1.6 (-5.3, 8.4)	-7.2 (-13.4, -0.9)*	-8.0 (-15.3, -0.8)*
Housing tenure				
Own home (R)	Ref		Ref	
Not own home	4.6 (-1.2, 10.5)	3.1 (-2.8, 9.1)	6.6 (-0.1, 13.3)	6.0 (-0.4, 12.4)
Annual equivalised income				
Q4 (highest) (R)	Ref		Ref	
Q3	8.1 (-1.9, 18.2)	7.3 (-1.6, 16.2)	6.8 (-4, 17.5)	7.1 (-2.5, 16.7)
Q2	8.8 (-1.2, 18.8)	6.9 (-2.1, 15.8)	7.7 (-3.6, 19.0)	6.5 (-3.5, 16.5)
Q1 (lowest)	5.5 (-5.6, 16.5)	3.9 (-7.4, 15.1)	8.7 (-1.7, 19.2)	8.8 (-1.3, 18.9)
Country of birth				
English speaking (R)	Ref		Ref	
Non-English speaking	-1.7 (-9.4, 6.0)	-0.4 (-9.0, 8.1)	5.3 (-2.8, 13.4)	3.7 (-3.8, 11.2)
Level of education				
Year 11 and above (R)	Ref		Ref	
Below Year 11	8.3 (1.9, 14.7)**	6.5 (-0.5, 13.5)	17.0 (8.6, 25.5)***	17.0 (9.1, 24.9)***
Disability status				
No disability (R)	Ref		Ref	
Disability	2.3 (-4.2, 8.8)	1.4 (-5.0, 7.9)	10.9 (0.1, 21.7)*	9.1 (-1.2, 19.4)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	Ref		Ref	
Q1-4	5.9 (-5.7, 17.5)	0.9 (-10.0, 11.8)	0.9 (-8.4, 10.1)	-3.5 (-13.4, 6.3)

Notes: Model 1: Linear regression controlling for age & adjusted for clustering ; Model 2: Model 1 plus adjustment for all other covariates; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.1.6 Section Summary

This section presented the results of the association between individual – and neighbourhood level sociodemographic factors and the five measures of social exclusion. Household composition, level of education and neighbourhood disadvantage were found to be associated with differing vulnerability and differing measures (domains) of social exclusion for men and women. Oldest old men who live alone (compared to those in multi-person households) were more likely to perceive themselves to be lacking in supportive relationships. For men, living in socioeconomically disadvantaged neighbourhoods was associated with a heightened perception of feeling their neighbourhood was unsafe. Conversely, living alone for women was associated with higher levels of community engagement. For women, living in poorer neighbourhoods was associated with higher levels of neighbourhood cohesion. Both men and women with lower levels of education were more disengaged from their community than their counterparts with higher levels of education. These associations remained significant after adjustment for sociodemographic factors. The next section investigates the association between individual- and neighbourhood-level sociodemographic factors and health.

5.2 Association Between Individual- and Neighbourhood-Level Sociodemographic Factors and Health

5.2.1 General Health

***Descriptive Results*.** Table 5.11 presents mean differences between individual - and neighbourhood-level characteristics and general health for men and women.

Men. Statistically significant associations were observed for men between disability status[9] and long-term health conditions and level of general health. Men with a disability, compared to those reporting no disability, on average reported worse general health. There were no other statistically significant associations between individual and neighbourhood-level determinants and general health for men.

[9] Given the close relationship between disability and health this association is expected

Women. Statistically significant associations were observed for women between household composition and general health. Living alone compared to living in a multi-person household was associated with better general health. There were no statistically significant associations between housing tenure, income level, country of birth, education, disability and general health. Statistically significant associations were observed for women between disability status and long-term health conditions and level of general health. Women with a disability, compared to those reporting no disability, on average reported worse general health. For women, there were no statistically significant associations observed between neighbourhood disadvantage and general health.

Table 5.11

Bivariate Associations Between Individual and Neighbourhood-level Characteristics and General Health for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not alone (R)	58.3 (53.7, 62.8)		48.2 (42.9, 53.4)	
Live alone	56.2 (48.9, 63.5)	-2.1	56.0 (52.3, 59.7)*	7.8
Housing tenure				
Own Home (R)	59.4 (55.2, 63.5)		53.9 (50.5, 57.4)	
Not own home	51.0 (41.5, 60.6)	-8.4	52.5 (45.9, 59.0)	-1.4
Income				
Q4 (highest) (R)	50.9 (42.5, 59.4)		51.6 (45.1, 58.0)	
Q3	57.8 (51.5, 64.1)	6.9	59.6 (53.2, 66.0)	8.0
Q2	58.6 (50.3, 66.9)	7.7	52.3 (46.3, 58.2)	0.7
Q1(lowest)	63.7 (55.9, 71.5)	12.8	51.6 (45.9, 57.3)	0.0
Country of birth				
English speaking (R)	56.6 (52.4, 60.8)		54.5 (51.4, 57.7)	
Non-English	63.8 (54.4, 73.3)	7.2	47.0 (36.6, 57.4)	-7.5
Level of education				
Year 11 and above	57.7 (52.2, 63.1)		51.9 (46.0, 57.8)	
Below Year 11	57.5 (52.1, 62.9)	-0.2	54.3 (50.7, 57.9)	2.4
Disability status				
No disability (R)	70.0 (65.0, 74.9)		67.6 (60.4, 74.9)	
Disability	51.8 (47.0, 56.5)***	-18.2	50.6 (47.4, 53.8)***	-17.0
Neighbourhood disadvantage				
Q5 (advantaged) (R)	60.4 (50.6, 70.2)		49.9 (41.8, 58.0)	
Q1-4	57.0 (52.8, 61.3)	-3.4	54.3 (51.0, 57.6)	4.4

Notes: Mean adjusted for clustering; MD is mean difference; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Multivariable Results Table 5.12 presents the multivariable associations between individual and neighbourhood-level characteristics and general health for men and women.

Men. There were no statistically significant associations observed between household composition, housing tenure, and general health. Statistically significant associations were observed between income and health. Controlling for age and clustering (Model 1), the lowest level of income, compared with the highest level, was associated with better self-reported health. After simultaneous adjustment for covariates (Model 2), men classified in the second lowest income category (Q2) compared to highest category, reported on average better health. There were no statistically significant associations observed between country of birth, nor level of education and general health. Men reporting a disability reported 19.5 points lower on the general health scale. There were no statistically significant associations observed between neighbourhood disadvantage and general health.

Women. For women, statistically significant associations were observed between household composition and level of general health. Living alone compared with living in a multi-person household was positively associated with better general health. This association remained largely unchanged after adjusting for all covariates (Model 2). Women with a disability reported lower perceptions of health. These associations remained after simultaneous adjusting for covariates (Model 2) and indicated a 15.5 point difference. These results suggest that for women, living alone and no presence of disability status were protective factors in reporting more favourable general health status. There were no statistically significant associations observed between neighbourhood disadvantage and general health.

Table 5.12

Multivariable Association Between Individual and Neighbourhood-level Characteristics with General Health for Men and Women

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
	β (95%CI)	β (95%CI)	β (95%CI)	β (95%CI)
Household composition				
Not alone (R)	Ref		Ref	
Live alone	-2.1 (-10.7, 6.5)	-5.1 (-12.5, 2.4)	7.8 (1.3, 14.3)*	6.8 (0.4, 13.3)*
Housing tenure				
Own Home (R)	Ref		Ref	
Not own home	-8.3 (-18.7, 2.1)	-7.6 (-16.1, 1.0)	-1.5 (-8.9, 5.9)	-2.8 (-10.4, 4.9)
Income				
Q4(advantaged) (R)	Ref		Ref	
Q3	6.9 (-3.9, 17.7)	6.1 (-2.5, 14.8)	8.1 (-1.0, 17.1)	7.1 (-1.3, 15.5)
Q2	7.7 (-4.3, 19.7)	12.1 (1.9, 22.4)*	0.7 (-8.0, 9.4)	-0.5 (-8.5, 7.5)
Q1(lowest)	12.8 (1.3, 24.4)*	11.9 (1.5, 22.2)*	8.6 (-8.6, 8.6)	0.7 (-8.5, 9.8)
Country of birth				
English (R)	Ref		Ref	
Non-English	7.3 (-3, 17.5)	4.7 (-6.7, 16.0)	-7.6 (-18.2, 3.1)	-5.8 (-16.2, 4.5)
Level of education				
Year 11 and > (R)	Ref		Ref	
Below Year 11	-0.2 (-7.9, 7.5)	2.2 (-5.3, 9.7)	2.4 (-4.5, 9.2)	2.1 (-4.7, 9.0)
Disability status				
No disability(R)	Ref		Ref	
Disability	-18.2 (-25,-11.3)***	-19.5(-26.4,-12.6)***	-17.1 (-25.0,-9.1)***	-15.5 (-23.9,-7.0)***
Neighbourhood disadvantage				
Q5 (advantaged)(R)	Ref		Ref	
Q1-4	-3.3 (-13.9, 7.3)	-6.8 (-17.1, 3.6)	4.4 (-4.0, 12.8)	1.2 (-7.4, 9.7)

Notes: Model 1: Linear regression controlling for age & adjusted for clustering; Model 2: Model 1 plus adjustment for all other covariates; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.2.2 Mental Health

Descriptive Results. Table 5.13 presents mean scores and mean differences between individual and neighbourhood-level characteristics and mental health for men and women.

Men and women. For both men and women, there was no statistically significant associations between household composition, household tenure, income, country of birth, level of education, neighbourhood disadvantage and mental health score. However, a statistically significant association was observed between disability status and mental health for men and women. Men and women with a disability (compared to those without a disability) had poorer mental health[10]. For example, on average men scored 7.6 points lower and women scored 10.7 points lower on the mental health scale than those reporting no disability.

[10] It is possible that poor mental health might be the person's disability subsequently predicting mental health

Table 5.13

Bivariate Relationship Between Individual and Neighbourhood-level Characteristics and Mental Health for Men and Women

	MEN		WOMEN	
	Mean (95% CI)	MD	Mean (95% CI)	MD
Household composition				
Not alone (R)	78.6 (75.4, 81.9)		72.4 (67.9, 76.8)	
Live alone	74.5 (68.5, 80.6)	-4.1	76.3 (73.2, 79.5)	3.9
Housing tenure				
Own Home (R)	78.4 (75.2, 81.6)		76.1 (73.1, 79.1)	
Not own home	73.0 (66.0, 80.0)	-5.4	72.4 (67.2, 77.5)	-3.7
Income				
Q4 (advantaged) (R)	73.7 (67.3, 80.2)		76.7 (71.2, 82.2)	
Q3	78.4 (73.3, 83.5)	4.7	76.8 (71.6, 81.9)	0.1
Q2	79.5 (73.8, 85.1)	5.8	74.6 (70.2, 79.1)	-2.1
Q1 (lowest)	77.0 (70.1, 83.8)	3.3	72.8 (67.4, 78.1)	-3.9
Country of birth				
English speaking (R)	77.4 (74.3, 80.6)		75.9 (73.2, 78.5)	
Non-English	76.4 (67.7, 85.1)	-1.0	69.8 (61.2, 78.5)	-6.1
Level of education				
Year 11 and above	76.8 (72.7, 80.8)		75.4 (71, 79.8)	
Below Year 11	78.0 (73.6, 82.3)	1.2	75.0 (71.8, 78.2)	-0.4
Disability status				
No disability (R)	82.4 (78.6, 86.2)		83.9 (79.3, 88.4)	
Disability	74.8 (70.9, 78.7)*	-7.6	73.2 (70.3, 76.1)**	-10.7
Neighbourhood disadvantage				
Q5 (advantaged) (R)	73.4 (65.5, 81.3)		73.2 (66.7, 79.7)	
Q1-4	78.6 (75.4, 81.9)	4.6	75.5 (72.7, 78.3)	2.3

Notes: Mean adjusted for clustering; MD is mean difference; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

Multivariable Results. The next section presents the gender stratified multivariable regressions, showing results of the relationships between individual and neighbourhood-level characteristics and mental health.

Men and women. For both men and women there was no statistically significant associations between household composition, household tenure, income, country of birth, level of education, neighbourhood disadvantage and mental health score.

For both genders, there was a statistically significant association between disability status and mental health. After controlling for age and clustering (Model 1), those with a disability, compared to those without a disability, reported poorer mental health. These associations strengthened (i.e. more statistically significant p value) after simultaneous adjustment for covariates (Model 2).

Table 5.14

Multivariable Association Between Individual and Neighbourhood-level Characteristics and Mental Health for Men and Women

	MEN		WOMEN	
	Model 1 B (95% CI)	Model 2 B (95% CI)	Model 1 B (95% CI)	Model 2 B (95% CI)
Household composition				
Not alone (R)	Ref		Ref	
Live alone	-4.1 (-10.9, 2.8)	-5.3 (-12.1, 1.5)	4.0 (-1.5, 9.4)	4.0 (-1.9, 9.9)
Housing tenure				
Own Home (R)	Ref		Ref	
Not own home	-5.4 (-13.1, 2.3)	-6.1 (-14.7, 2.5)	-3.7 (-9.6, 2.2)	-4.3 (-10.5, 1.8)
Income				
Q4 (highest) (R)	Ref		Ref	
Q3	4.7 (-3.8, 13.1)	3.5 (-4.3, 11.4)	0.1 (-7.6, 7.8)	0.1 (-7.7, 7.8)
Q2	5.7 (-2.7, 14.2)	5.4 (-3.3, 14.0)	-2.1 (-9.1, 5.0)	-2.7 (-9.8, 4.5)
Q1 (lowest)	3.2 (-6.2, 12.6)	2.5 (-6.2, 11.1)	-3.9 (-11.6, 3.7)	-2.5 (-10.2, 5.1)
Country of birth				
English speaking (R)	Ref		Ref	
Not ES	-1.1 (-10.2, 8.0)	-1.3 (-10.6, 7.9)	-6.0 (-15.1, 3.0)	-4.8 (-14.3, 4.6)
Level of education				
Year 11 and above(R)	Ref		Ref	
Below Year 11	1.2 (-4.8, 7.2)	1.0 (-5.7, 7.6)	-0.4 (-6.1, 5.2)	-0.9 (-6.6, 4.9)
Disability status				
No disability (R)	Ref		Ref	
Disability	-7.6 (-13.1, -2.1)**	-8.5(-13.9,-3.1)***	-10.6 (-16, -5.3)***	-9.2 (-14.8, -3.7)***
Neighbourhood disadvantage				
Q5 (advantaged) (R)	Ref		Ref	
Q1-4	4.1 (-10.9, 2.8)	2.5 (-5.5, 10.4)	2.3 (-4.2, 8.9)	1.4 (-6.2, 9.0)

Notes: Model 1: Linear regression controlling for age & adjusted for clustering ; Model 2: Model 1 plus adjustment for all other covariates; (R) = reference category
*p≤ 0.05, **p≤ 0.01, ***p≤ 0.001

5.2.3 Section Summary

This section investigated the association between individual- and neighbourhood characteristics and two measures of self-reported health: general health and mental health . For men, higher income and disability status were significantly associated with poorerer general health, and for women, living in a multi-person household and reporting a disability were significantly associated with poor general health. For both men and women, disability was the only factor found to be significantly associated with poorer mental health, suggesting that mental health was similar irrespective of household composition, housing tenure, income level, country of birth, education, and whether one lived in an advantaged or disadvantaged neighbourhood.

5.3 Associations Between Individual and Neighbourhood-Level Characteristics, Social Exclusion, and Health: Main-Effect and Interaction Models

The aim of this section is twofold: first, I examine the main-effects between individual- and neighbourhood-level characteristics, social exclusion and health (general health and mental health) for men and women (Model 1). This model examines the separate (independent) association between individual- and neighbourhood characteristics and health, and social exclusion and health. Second, I then examine interactions between individual- and neighbourhood-level characteristics, social exclusion, and health for men and women (Model 2). These interaction models examine whether associations between individual- and neighbourhood-level characteristics and health differ depending on level of social exclusion.

Interaction results that are statistically significant are also presented graphically. Like previous analyses, the two measures of health - general health and mental health - are analysed separately. The results are presented under the relevant sub-headings, and each socio-demographic variable is presented in a separate table. Model 1 is nested within the Model 2, hence effect modification was tested using a likelihood ratio test.

5.3.1 General Health: Main Effects and Interaction Models

Household Composition, Social Exclusion, and General Health

Table 5.15 shows the main-effect associations and interactions between household composition, social exclusion, and general health for men and women.

Household Composition, Unsupportive Relationships, and Health. There was no association between household composition and health for men or women when simultaneously adjusting for perceived unsupportive relationships and the covariates (age, household composition, housing tenure, income, education, country of birth, disability status and neighbourhood disadvantage). There was a significant adjusted association between unsupportive relationships and health for men (but not women): men who perceived they had unsupportive relationships also reported poorer general health. There were no significant interactions between household composition, unsupportive relationships, and health for men or women.

Household Composition, Community Disengagement, and General Health. There were no statistically significant adjusted associations between household composition and general health: reported health status was similar irrespective of whether men or women lived alone or with someone else. There were no significant adjusted association between community disengagement and health, nor were there significant interactions between household composition, community disengagement, and health for men or women.

Household Composition, Noise, and General Health. There was no association between household composition and health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between noise and health, nor were significant interactions between household composition, community disengagement, and health for men or women.

Household Composition, Crime and General Health. There was no association between household composition and health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There was a significant adjusted association between neighbourhood crime and health for men (but not women): Men who had heightened perceptions of crime had significantly poorer general health. There were no significant

interactions between household composition, neighbourhood crime, and health for men or women.

Household Composition, Incohesion and General Health. There was no association between household composition and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with worse general health. There were no statistically significant interactions between household composition, general health, and vulnerability to social exclusion.

Table 5.15

Association Between Household Composition, Social Exclusion and General Health For Men And Women: Main Effect (Model 1) And Interaction Model (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-2.5 (-10.6, 5.6)	-2.6 (-10.7, 5.6)	6.3 (-1.0, 13.5)	10.4 (-1.5, 22.3)
Social exclusion				
Unsupportive Relationships	-0.1 (-0.3, 0.0)*	-0.1 (-0.3, 0.1)	-0.2 (-0.3, 0.1)	-0.2 (-0.4, 0.1)
Household composition by social exclusion				
Not live alone*Unsupportive Rels. (R)	--	--	--	--
Live alone*Unsupportive Relationships		0.0 (-0.3, 0.3)		-0.1 (-0.5, 0.2)
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-5.2 (-13.2, 2.8)	-22.6 (-60.5, 15.4)	4.6 (-2.3, 11.4)	14.3 (-18.4, 47.1)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	-0.1 (-0.4, 0.2)	-0.2 (-0.4, 0.1)	-0.2 (-0.5, 0.2)
Household composition by social exclusion				
Not live alone*Community dis. (R)	--	--	--	--
Live alone*Community disengagement		0.2 (-0.2, 0.6)		-0.1 (-0.5, 0.3)
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-4.0 (-11.9, 3.9)	-1.2 (-17.3, 15.0)	6.7 (-0.2, 13.5)	9.3 (-4.3, 22.8)
Social exclusion				
Noise	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.2)	0.1 (-0.1, 0.2)	0.1 (-0.1, 0.4)
Household composition by social exclusion				
Not live alone*Noise (R)	--	--	--	--
Live alone*Noise		-0.1 (-0.4, 0.3)		-0.1 (-0.4, 0.2)
Household composition				
Not live alone (R)				
Live alone	-1.2 (-9.7, 7.2)	2.1 (-11.6, 15.9)	5.1 (-2.5, 12.7)	7.7 (-3.4, 18.8)
Social exclusion				
Crime	-0.2 (-0.4, 0.0)*	-0.1 (-0.3, 0.1)	0.0 (-0.1, 0.1)	0.1 (-0.2, 0.3)
Household composition by social exclusion				
Not live alone*Crime (R)	--	--	--	--
Live alone*Crime		-0.1 (-0.5, 0.3)		-0.1 (-0.4, 0.2)
Household composition				
Not live alone (R)				
Live alone	-4.4 (-12.7, 4.0)	7.1 (-10.0, 24.2)	6.8 (-0.2, 13.8)	0.1 (-11.8, 13.7)
Social exclusion				
Incohesion	-0.2 (-0.3,0.0)**	-0.1 (-0.3, 0.1)	-0.2 (-0.3, 0.0)***	-0.3 (-0.5, 0.0)**
Household composition by social exclusion				
Not live alone*Incohesion (R)	--	--	--	--
Live alone*Incohesion		-0.3 (-0.6, 0.1)		0.2 (-0.1, 0.4)

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Housing Tenure, Social Exclusion, and Health

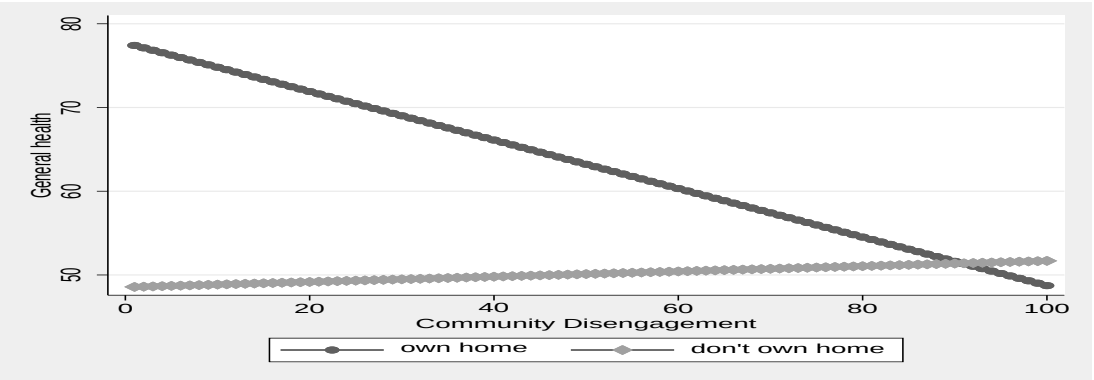
Table 5.16 shows the main-effect associations and interactions between housing tenure, social exclusion, and general health for men and women.

Housing Tenure, Unsupportive Relationships, and Health. There was no association between housing tenure and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates (age, household composition, housing tenure, income, education, country of birth, disability status and neighbourhood disadvantage). There was a significant adjusted association between unsupportive relationships and health for men and women: those perceiving they had unsupportive relationships reported poorer general health. There were no significant interactions between housing tenure, unsupportive relationships, and health for men or women.

Housing Tenure, Community Disengagement, and General Health. There were no statistically significant adjusted associations between housing tenure and general health: reported health status was similar irrespective of whether men or women owned their home. There was a significant adjusted association between community disengagement and health for women (not men), with higher levels of perceived community disengagement associated with poorer health. The association between housing tenure and health was different by levels of community disengagement (Figure 5.1). For women who owned their own home there was a negative association between community disengagement and general health: as the level of community disengagement increased, reported general health was poorer.

Figure 5.1

Interaction Graph: Contribution of Community Disengagement on the Association Between Housing Tenure and General Health for Women.



Housing Tenure, Noise, and General Health. There was a significant association between housing tenure and health for men, but not women, when simultaneously adjusting for neighbourhood noise and the covariates. Men who were not home owners had significantly higher perceptions of neighbourhood noise. There were no significant adjusted association between noise and health, nor were significant interactions between housing tenure, noise, and health for men or women

Housing Tenure, Crime and General Health. There were no associations between housing tenure and health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There was a significant adjusted association between neighbourhood crime and health for men (but not women): men who had heightened perceptions of crime had significantly poorer general health. There were no significant interactions between housing tenure, neighbourhood crime, and health for men or women.

Housing Tenure, Incohesion and General Health. There was no association between housing tenure and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with worse general health. There were no statistically significant interactions between housing tenure and neighbourhood incohesion and general health.

Table 5.16

Association Between Housing Tenure, Social Exclusion and General Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-7.2 (-16.5, 2.1)	-8.2 (-24.0, 7.6)	6.3 (-1.0, 13.5)	-2.1 (-14.1, 9.8)
Social exclusion				
Unsupportive Relationships	-0.1 (-0.3, 0.0)*	-0.1 (-0.3, 0.0)	-0.2 (-0.3, -0.1)***	-0.2 (-0.4, 0.0)***
Housing tenure by social exclusion				
Own home *Unsupportive Rels.	--	--	--	--
Not own home *Unsup. Rels.		0.0 (-0.3, 0.4)		0.0 (-0.3, 0.3)
Housing tenure				
Own home (R)	--	--		
Not own home	-7.6 (-16.8, 1.7)	-29.8 (-97.3, 37.8)	-1.2 (-8.1, 5.6)	-29.2 (-61.6, 3.3)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.2)	-0.2 (-0.4, -0.1)***	-0.3 (-0.4, -0.1)***
Housing tenure by social exclusion				
Own home * Community d.	--	--	--	--
Not own home *Community d.		0.3 (-0.5, 1.0)		0.3 (0.0, 0.7)*
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-10.7(-20.3,-1.2)**	-7.3 (-25.1, 10.6)	-4.0 (-11.1, 3.1)	-1.5 (-14.2, 11.2)
Social exclusion				
Noise	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.2)	0.1 (-0.1, 0.2)	0.1 (-0.1, 0.2)
Housing tenure by social				
Own home *Noise (R)	--	--	--	--
Not own home *Noise		-0.1 (-0.5, 3.0)		-0.1 (-0.3, 2.0)
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-8.3 (-18.8, 2.2)	-3.2 (-21.6, 15.3)	-4.0 (-11.5, 3.7)	-9.5 (-20.9, 2.0)
Social exclusion				
Crime	-0.2 (-0.3, 0.0)*	-0.1 (-0.3, 0.1)	0.0 (-0.1, 0.1)	-0.1 (-0.2, 0.1)
Housing tenure by social exclusion				
Own home *Crime (R)	--	--	--	--
Not own home *Crime		-0.2 (-0.7, 0.4)		0.2 (-0.1, 0.5)
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-7.7 (-18.2, 2.7)	-10.1 (-30.1, 9.8)	-7.1 (-14.3, 0.1)	-10.4 (-25.6, 4.7)
Social exclusion				
Incohesion	-0.2 (-0.3, 0.0)**	-0.2 (-0.4, 0.0)**	-0.2 (-0.3, 0.0)***	-0.2 (-0.3, 0.0)***
Housing tenure by social exclusion				
Own home *Incohesion (R)	--	--	--	--
Not own home *Incohesion		0.1 (-0.4, 0.5)		0.1 (-0.2, 0.3)

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Income, Social Exclusion and Health

Table 5,17 shows the main-effect associations and interactions between income, social exclusion, and general health for men and women.

Income, Unsupportive Relationships, and Health. There was no association between income and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. For both men and women there was a significant adjusted association between unsupportive relationships and health: those who perceived they had unsupportive relationships also reported poorer general health. There were no significant interactions between income, unsupportive relationships, and health for men or women.

Income, Community Disengagement, and General Health. There were no statistically significant adjusted associations between income and general health: reported health status was similar irrespective of level of income. For women (not men) there was a significant adjusted association between community disengagement and health: those who perceived worse community engagement also reported poorer general health. There were no significant interactions between household composition, community disengagement, and health for men or women.

Income, Noise, and General Health. There was a significant association between income and health for men (not women) when simultaneously adjusting for neighbourhood noise and the covariates: men with lower levels of income reported better health. There were no significant adjusted association between noise and health, nor were significant interactions between household composition, community disengagement, and health for men or women

Income, Crime and General Health. There was a significant association between income and health for men (not women) when simultaneously adjusting for neighbourhood crime and the covariates: men with lower levels of income reported better health. There was a significant adjusted association between neighbourhood crime and health for men (but not women). Men who had heightened perceptions of crime had significantly poorer general health. There were no significant interactions between income, neighbourhood crime, and health for men or women.

Income, Incohesion and General Health. There was a significant association between income and health for men (not women) when simultaneously adjusting for neighbourhood incohesion and the covariates: men with lower levels of income reported better health. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with poorer general health. There were no statistically significant interactions between income, neighbourhood incohesion and general health.

Table 5.17

Association Between Income, Social Exclusion and General Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	10.9 (-0.3, 22.2)	3.8 (-14.9, 22.5)	-0.2 (-9.2, 8.8)	-2.8 (-16.9, 11.4)
Social exclusion				
Unsupportive Relationships	-0.1(-0.3, 0.0)*	-0.3 (-0.6, 0.1)	-0.2 (-0.3, 0.0)***	-0.2 (-0.4, 0.1)
Income by social exclusion				
Q4 *Unsupportive Rels. (R)	--	--	--	--
Q1 (lowest) *Unsupportive Rels.		0.2 (-0.3, 0.7)		0.0 (-0.3, 0.4)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	11.3 (-0.1, 22.8)	35.8 (-16.4, 88.0)	3.3 (-5.4, 11.9)	3.3 (-24.9, 31.5)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.1 (-0.3, 0.5)	-0.2 (-0.4, 0.0)***	-0.3 (-0.5, -0.1)***
Income by social exclusion				
Q4 (highest) *C.Dis. (R)	--	--	--	--
Q1 (lowest) * C. Disengagement		-0.3 (-0.9, 0.3)		0.0 (-0.3, 0.3)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	11.6 (0.5, 22.8)**	5.2 (-16.4, 26.8)	1.4 (-7.2, 10.0)	1.5 (-13.6, 16.6)
Social exclusion				
Noise	0.0 (-0.2, 0.2)	-0.2 (-0.6, 0.2)	0.1 (-0.1, 0.2)	0.0 (-0.2, 0.3)
Income by social exclusion				
Q4 (highest) *Noise (R)	--	--	--	--
Q1 (lowest) *Noise		0.2 (-0.3, 0.7)		0.0 (-0.3, 0.3)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	14.4 (2.1, 26.6)**	7.9 (-14.8, 30.5)	1.3 (-8.2, 10.9)	7.0 (-8.0, 22.0)
Social exclusion				
Crime	-0.2 (-0.3, 0.0)*	-0.3 (-0.8, 0.2)	0.0 (-0.1, 0.1)	0.1 (-0.2, 0.4)
Income by social exclusion				
Q4 (advantaged) *Crime (R)	--	--	--	--
Q1 (lowest) *Crime		0.2 (-0.4, 0.8)		-0.2 (-0.6, 0.2)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	13.6 (1.2, 26.0)**	10.5 (-13.7, 34.8)	2.2 (-6.7, 11.2)	-1.4 (-16.2, 13.4)
Social exclusion				
Incohesion	-0.2 (-0.3, 0.0)**	-0.3 (-0.7, 0.1)	-0.2 (-0.3, 0.0)*	-0.2 (-0.5, 0.0)*
Income by social exclusion				
Q4 (advantaged) *Incohesion (R)	--	--	--	--
Q1 (lowest) *Incohesion		0.0 (-0.5, 0.5)		0.1 (-0.2, 0.4)

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Country of Birth, Social Exclusion and Health

Table 5.18 shows the main-effect associations and interactions between country of birth (English proficiency) social exclusion, and general health for men and women.

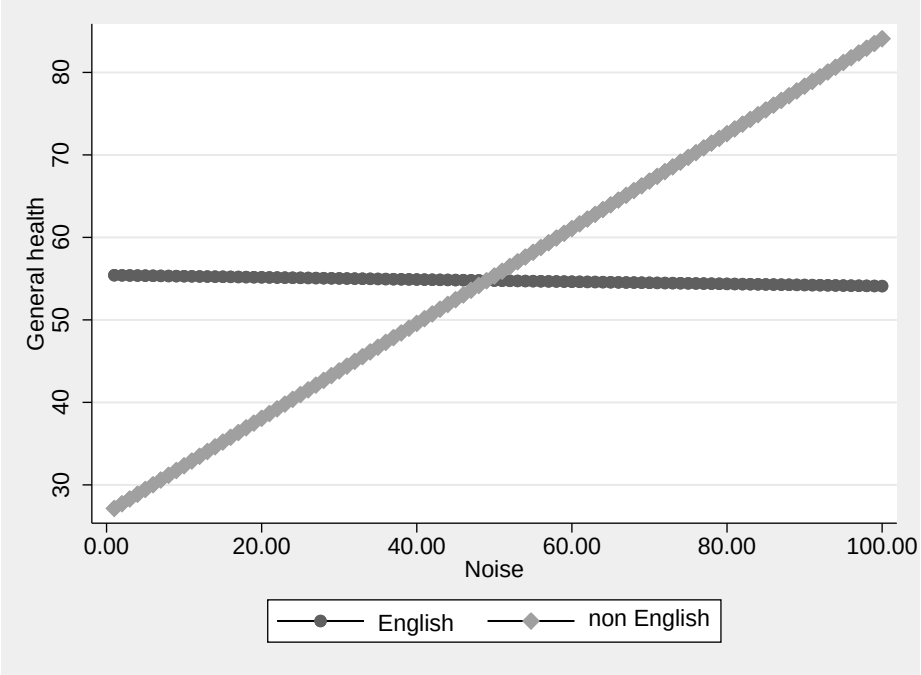
Country of Birth, Unsupportive Relationships, and Health. There was no association between country of birth and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There was a significant adjusted association between unsupportive relationships and health for men and women: those who perceived they had unsupportive relationships also reported poorer general health. There were no significant interactions between country of birth, unsupportive relationships, and health for men or women.

Country of Birth, Community Disengagement, and General Health. There were no statistically significant adjusted associations between country of birth and general health: reported health status was similar irrespective of whether men or women were born in a country in which English was the main language spoken. There was a significant adjusted association between community disengagement and health for women (not men): women who perceived they were disengaged from their community also reported poorer general health. There were no significant interactions between country of birth , community disengagement, and health for men or women.

Country of Birth, Noise, and General Health. There were no associations between country of birth and health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between neighbourhood noise and health. For women there was a significant interaction between country of birth, neighbourhood noise, and health. For women, the effect of English proficiency on general health differed depending on level of perceived noise (Figure 5.2) and differed to a greater extent for those who were born in a country where English was not the main language. The graph illustrates that for non-English speakers, increasing levels of perception of neighbourhood noise increases self-rated general health.

Figure 5.2

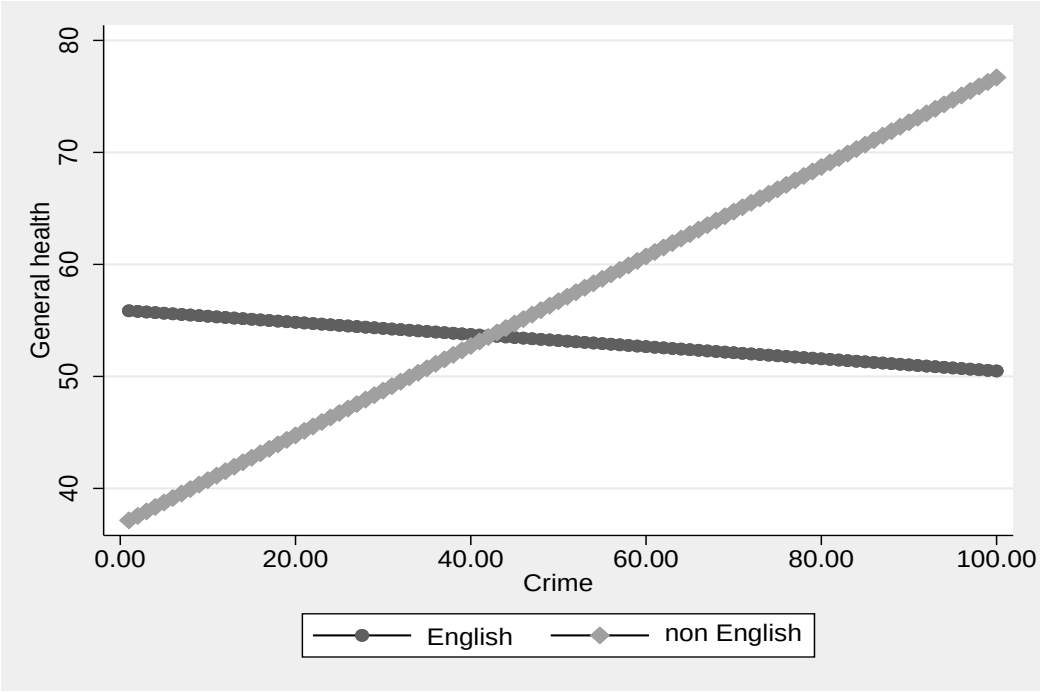
Interaction Graph: Contribution of Perceived Level of Neighbourhood Noise on the Association Between English Proficiency and General Health for Women.



Country of Birth, Crime and General Health. There were no associations between country of birth and health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There was a significant adjusted association between neighbourhood crime and health for men (but not women): men who had heightened perceptions of crime had significantly poorer general health. For women there was a significant interaction between country of birth, neighbourhood noise, and health. For women (not men), the effect of English proficiency on general health differed depending on level of perceived crime (Figure 5.3) and differed to a greater extent for those who were born in a country where English was not the main language. The graph illustrates that for non-English speakers, increasing levels of perception of neighbourhood crime, increases self-rated general health.

Figure 5.3

Interaction Graph: Contribution of Perceived Level of Neighbourhood Crime on the Association Between English Proficiency and General Health for Women.



Country of Birth, Incohesion and General Health. There was no association between country of birth and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with worse general health. There were no statistically significant interactions between country of birth, neighbourhood incohesion and general health.

Table 5.18

Association Between Country of Birth, Social Exclusion and General Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Country of birth				
English speaking (R)	--	--	--	--
Non-English speaking	4.8 (-6.2, 15.8)	2.5 (-18.9, 23.8)	-3.8 (-13.0, 5.5)	-9.0 (-25.6, 7.7)
Social exclusion				
Unsupportive Relationships	-0.1 (-0.3, 0.0)*	-0.1 (-0.3, 0.0)*	-0.2 (-0.3,-0.1)***	-0.2 (-0.4, -0.1)***
Country of birth by social exclusion				
English speaking *U.Rels (R)	--	--	--	--
Non-English speaking		0.1 (-0.5, 0.7)		0.1 (-0.2, 0.5)
Country of birth				
English speaking (R)	--	--	--	--
Non-English speaking	5.2 (-5.7, 16.1)	-28.2 (-95.6, 39.1)	-5.0 (-13.7, 3.7)	-20.7 (-63.9, 22.5)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.0 (-0.3, 0.2)	-0.2(-0.4,-0.1)***	-0.3 (-0.4, -0.1)***
Country of birth by social exclusion				
English *Community dis. (R)	--	--	--	--
Non-English *Community dis.		0.4 (-0.4, 1.1)		0.2 (-0.3, 0.7)
Country of birth				
English speaking (R)	--	--	--	--
Non-English speaking	3.3 (-8.0, 14.5)	1.3 (-20.0, 22.5)	-8.4 (-17.4, 0.7)	-28.9 (-43.7, -14.0)***
Social exclusion				
Noise	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.2)	0.1 (-0.1, 0.2)	0.0 (-0.1, 0.1)
Country of birth by social exclusion				
English speaking *Noise (R)	--	--	--	--
Non-English speaking *Noise		0.0 (-0.4, 0.5)		0.1 (0.2, 1.0)***
Country of birth				
English speaking (R)	--	--		
Non-English speaking	-1.8 (-14.2, 10.6)	1.0 (-17.5, 19.0)	-6.3 (-16.3, 3.8)	-19.2 (-34.7, -3.6)**
Social exclusion				
Crime	-0.2 (-0.3, 0.0)*	-0.2 (-0.3, 0.1)	0.0 (-0.1, 0.1)	-0.1 (-0.1, 0.1)
Country of birth by social exclusion				
English speaking *Crime (R)	--	--	--	--
Non-English speaking *Crime		-0.1 (-0.6, 0.4)		0.5 (0.0, 0.9)**
Country of birth				
English speaking (R)	--	--		
Non-English speaking	1.4 (-10.8, 13.6)	-1.5 (-25.1, 22.0)	-7.3 (-16.4, 1.8)	-3.1 (-22.7, 16.6)
Social exclusion				
Incohesion	-0.2 (-0.3, 0.0)**	-0.2 (-0.3, 0.0)**	-0.2 (-0.3,0.0)***	-0.1 (-0.3, 0.0)**
Country of birth by social exclusion				
English speaking *Incohesion (R)	--	--	--	--
Non-English *Incohesion		0.1 (-0.4, 0.6)		-0.1 (-0.5, 0.3)

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Education, Social Exclusion and Health

Table 5.19 shows the main-effect associations and interactions between education, social exclusion, and general health for men and women.

Education, Unsupportive Relationships, and Health. There was no association between highest level of education obtained and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There was a significant adjusted association between unsupportive relationships and health for men (but not women): men who perceived they had unsupportive relationships also reported poorer general health. There were no significant interactions between education, unsupportive relationships, and health for men or women.

Education, Community Disengagement, and General Health. There were no statistically significant adjusted associations between education and general health: reported health status. There was a significant adjusted association between unsupportive relationships and health for women (but not men): women who perceived community disengagement also reported poorer general health. There were no significant interactions between education, community disengagement, and health for men or women

Education, Noise, and General Health. There was no association between education and health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between noise and health, nor were significant interactions between education, community disengagement, and health for men or women

Education, Crime and General Health. There was no association between education and health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There was a significant adjusted association between neighbourhood crime and health for men (but not women): men who had heightened perceptions of crime had significantly poorer general health. There were no significant interactions between education, neighbourhood crime, and health for men or women.

Education, Incohesion and General Health

There was no association between education and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with worse general health. There were no statistically significant interactions between education, neighbourhood incohesion and, general health.

Table 5.19

Association Between Level of Education, Social Exclusion and General Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Level of education				
Year 11 and above (R)	--	--	--	--
Below Year 11	2.9 (-5.2, 11.0)	4.0 (-9.6, 17.5)	3.7 (-3.1, 10.4)	1.0 (-10.2, 12.3)
Social exclusion				
Unsupportive Relationships	-0.1 (-0.3, 0.0)*	-0.1 (-0.3, 0.1)	-0.2 (-0.3, 0.1)	-0.3 (-0.6, 0.0)*
Level of education by social exclusion				
Year 11 >*Unsupportive Rels (R)	--	--	--	--
Below Year 11 *Unsupportive Rels		0.0 (-0.3, 0.3)		0.1 (-0.2, 0.4)
Level of education				
Year 11 and above (R)	--	--	--	--
Below year 11	2.8 (-5.3, 11.0)	8.2 (-33.0, 49.5)	6.0 (-0.8, 12.8)	-3.7 (-27.6, 20.3)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.2)	-0.2 (-0.4, -0.1)***	-0.3 (-0.5, -0.1)***
Level of education by social exclusion				
Year 11 and above *Comm dis.	--	--	--	--
Below Year 11 * Comm. dis		-0.1 (-0.5, 0.4)		0.1 (-0.1, 0.4)
Level of education				
Year 11 and above (R)	--	--	--	--
Below year 11	1.8 (-6.2, 9.8)	5.4 (-9.8, 20.5)	1.6 (-4.9, 8.1)	7.0 (-4.5, 18.6)
Social exclusion				
Noise	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.3)	0.1 (-0.1, 0.2)	0.2 (-0.1, 0.4)
Level of education by social exclusion				
Year 11 and above *Noise (R)	--	--	--	--
Below Year 11 *Noise		-0.1 (-0.4, 0.2)		-0.2 (-0.4, 0.1)
Level of education				
Year 11 and above (R)	--	--	--	--
Below year 11	1.0 (-7.8, 8.9)	-3.9 (-17.5, 9.6)	3.6 (-3.6, 10.8)	-1.0 (-12.6, 10.7)
Social exclusion				
Crime	-0.2 (-0.3, 0.0)*	-0.2 (-0.5, 0.0)*	0.0 (-0.1, 0.1)	-0.1 (-0.4, 0.2)
Level of education by social exclusion				
Year 11 and above *Crime (R)	--	--	--	--
Below Year 11 *Crime		0.2 (-0.2, 0.5)		0.2 (-0.2, 0.5)
Level of education				
Year 11 and above (R)	--	--		
Below Year 11	0.7 (-7.9, 9.3)	-4.5 (-19.5, 10.5)	2.3 (-4.3, 8.9)	1.0 (-11.1, 12.9)
Social exclusion				
Incohesion	-0.2(-0.3, 0.0)**	-0.2 (-0.4, 0.0)**	-0.2 (-0.3, 0.0)***	-0.2 (-0.4, 0.0)*
Level of education by social exclusion				
Year 11 and above *Incohesion	--	--	--	--
Below Year 11 *Incohesion		0.1 (-0.2, 0.5)		0.0 (-0.2, 0.3)

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Disability, Social Exclusion and Health

Table 5.20 shows the main-effect associations and interactions between disability and long-term health conditions, social exclusion, and general health for men and women.

Disability, Unsupportive Relationships, and Health. There were significant associations between disability and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates: reported health status was worse among those with a disability. There were significant adjusted associations between unsupportive relationships and health for men and women, as those who perceived they had unsupportive relationships also reported poorer general health. There were no significant interactions between disability, unsupportive relationships, and health for men or women.

Disability, Community Disengagement, and General Health. There were significant associations between disability and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There was a significant adjusted association between unsupportive relationships and health for women (but not men): women who perceived community disengagement also reported poorer general health. There were no significant interactions between disability, community disengagement, and health for men or women

Disability, Noise, and General Health. There were significant associations between disability and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There were no significant adjusted association between noise and health, nor were significant interactions between disability, community disengagement, and health for men or women.

Disability, Crime and General Health. There were significant associations between disability and health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There was a significant adjusted association between neighbourhood crime and health for men (but not women): Men who had heightened perceptions of crime had significantly poorer general health. There were no significant interactions between disability, neighbourhood crime, and health for men or women.

Disability, Incohesion and General Health. There were significant associations between disability and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with worse general health. For women (but not men) there was a statistically significant interaction between disability, neighbourhood incohesion and, general health.

Figure 5.4 illustrates that the direction of the effect differs for those with, and for those without a disability. The moderating effect of neighbourhood incohesion is stronger (i.e. steeper gradient) for those with a disability and implies decreasing health with increasing neighbourhood incohesion.

Figure 5.4.

Interaction Graph: Contribution of Perceived Level of Neighbourhood Incohesion on the Association Between Disability and General Health for Women

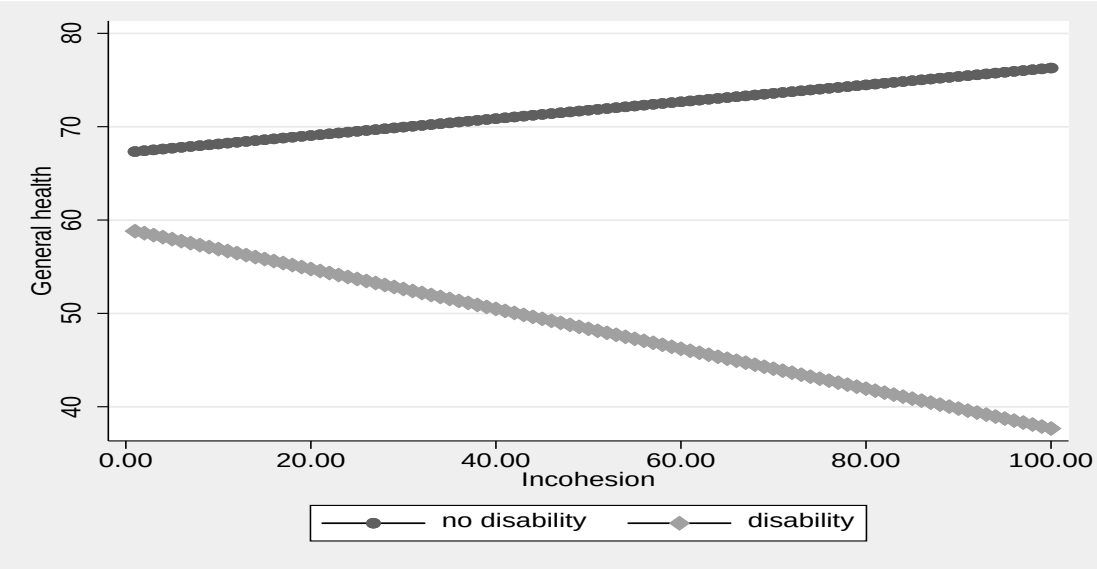


Table 5.20

Association Between Disability, Social Exclusion and General Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Disability				
No disability (R)	--	--	--	--
Disability	-18.2(-26.3,-10.2)***	-16.5 (-29.9, -3.0)**	-13.1(-21.8,-4.4)***	-18.3 (-31.5, -5.2)***
Social exclusion				
Unsupportive Relationships	-0.1(-0.3, 0.0)*	-0.1(-0.4, 0.2)	-0.2 (-0.3, -0.1)***	-0.5 (-0.8, 0.0)**
Disability by social exclusion				
No disability *Unsupportive R.	--	--	--	--
Disability *Unsupportive Rels.		-0.1(-0.4, 0.3)		0.2 (-0.2, 0.7)
Disability				
No disability (R)	--	--	--	--
Disability	-19.2(-27.1, -11.2)***	4.3 (-39.5, 48.1)	-13.3(-21.2,-5.4)***	-6.9 (-31.2, 17.5)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.2 (-0.2, 0.6)	-0.2 (-0.4, -0.1)***	-0.2 (-0.4, 0.1)
Disability by social exclusion				
No disability *Community dis	--	--	--	--
Disability *Community dis		-0.2 (-0.8, 0.6)		-0.1 (-0.4, 0.2)
Disability				
No disability (R)	--	--	--	--
Disability	-20.2 (-28.0,-12.3)***	-21.2(-36.4 -6.0)***	-15.7(-23.5,-7.9)***	-18.0 (-32.9,-3.1)***
Social exclusion				
Noise	0.0 (-0.2, 0.2)	0.0 (-0.3, 0.3)	0.1 (-0.1, 0.2)	0.0 (-0.3, 0.3)
Disability by social exclusion				
No disability *Noise (R)	--	--	--	--
Disability *Noise		0.0 (-0.3, 0.3)		0.1 (-0.3, 0.4)
Disability				
No disability (R)	--	--	--	--
Disability	-19.0 (-27.5,-10.5)***	-17.8(-31.3,-4.3)***	-17.6(-26.3,-8.9)***	-23.0 (-37.9,-8.1)***
Social exclusion				
Crime	-0.2 (-0.4, 0.0)*	-0.1 (-0.5, 0.3)	0.0 (-0.1, 0.1)	-0.2 (-0.6, 0.2)
Disability by social exclusion				
No disability *Crime (R)	--	--	--	--
Disability *Crime		0.0 (-0.5, 0.5)		0.2 (-0.2, 0.6)
Disability				
No disability (R)	--	--	--	--
Disability	-21.2(-29.6,-12.8)***	-18.5 (-35.1, -1.9)	-19.6(-30.0,-11.3)***	-8.2 (-21.8, 5.3)
Social exclusion				
Incohesion	-0.2 (-0.3, 0.0)**	-0.1 (-0.4, 0.2)	-0.2 (-0.3, 0.0)*	0.1 (-0.2, 0.4)
Disability by social exclusion				
No disability *Incohesion (R)	--	--	--	--
Disability *Incohesion		-0.1 (-0.4, 0.3)		-0.3 (-0.6, 0.0)**

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Neighbourhood Disadvantage, Social Exclusion and Health

Table 5.21 shows the main-effect associations and interactions between neighbourhood disadvantage, social exclusion, and general health for men and women.

Neighbourhood Disadvantage, Unsupportive Relationships, and Health. There was no association between neighbourhood disadvantage and health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. For men and women there were significant adjusted association between unsupportive relationships and health. Those who perceived they had unsupportive relationships also reported poorer general health. There were no significant interactions between neighbourhood disadvantage, unsupportive relationships, and health for men or women.

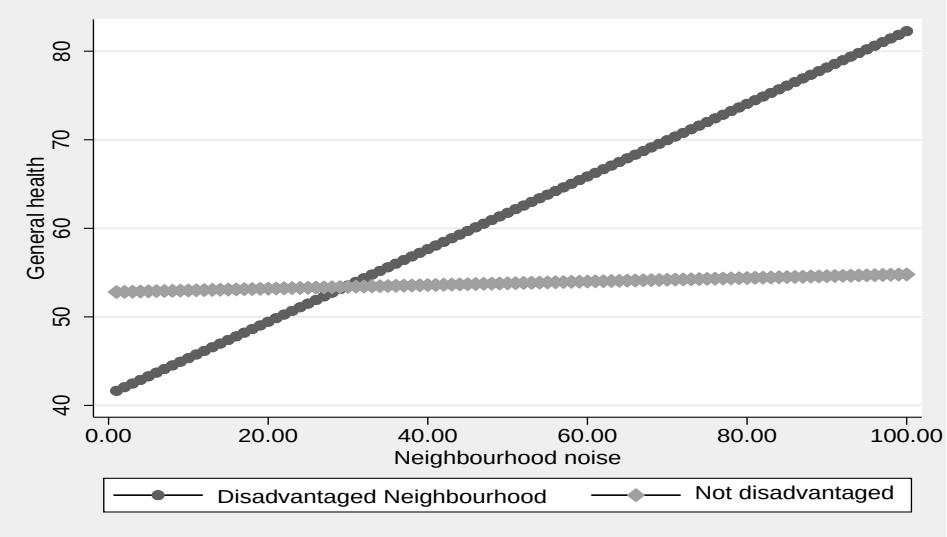
Neighbourhood Disadvantage, Community Disengagement, and General Health

There were no statistically significant adjusted associations between neighbourhood disadvantage and general health: reported health status was similar irrespective of whether men or women lived in a disadvantaged neighbourhood. For women there was a significant adjusted association between community disengagement and health. Those who perceived the were disengaged from their community also reported poorer general health. There were no significant interactions between neighbourhood disadvantage, community disengagement, and health for men or women

Neighbourhood Disadvantage, Noise, and General Health. There was no association between neighbourhood disadvantage and health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between noise and health. There was a significant interaction between neighbourhood disadvantage, community disengagement, and health for women. Figure 5.5 shows that for women living in disadvantaged neighbourhoods, increasing levels of noise, improves health.

Figure 5.5

Interaction Graph: Contribution of Perceived Level of Neighbourhood Noise on the Association Between Neighbourhood disadvantage and General Health for Women.



Neighbourhood Disadvantage, Crime and General Health. There was no association between neighbourhood disadvantage and health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There was a significant adjusted association between neighbourhood crime and health for men (but not women): men who had heightened perceptions of crime had significantly poorer general health. There were no significant interactions between neighbourhood disadvantage, neighbourhood crime, and health for men or women.

Neighbourhood Disadvantage, Incohesion and General Health. There was no association between household composition and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there was a significant association between neighbourhood incohesion and general health, with heightened perceptions of neighbourhood incoheison associated with worse general health. There were no statistically significant interactions between neighbourhood disadvantage, general health, and neighbourhood incohesion.

Table 5.21

Association Between Neighbourhood disadvantage, Social Exclusion and General Health For Men And Women: Main Effect(Model 1) and Interaction Models(Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	-6.0 (-16.8, 4.8)	-8.7 (-23.8, 6.3)	2.0 (-6.5, 10.5)	3.5 (-10.8, 17.8)
Social exclusion				
Unsupportive Relationships	-0.1 (-0.3, 0.0)*	-0.2 (-0.6, 0.1)	-0.2 (-0.3,0.1)***	-0.2 (-0.6, 0.2)
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Unsupportive Rel	--	--	--	--
Q 1-4 *Unsupportive Relationships		0.1 (-0.3, 0.5)		0.0 (-0.4, 0.3)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	-6.5 (-17.4, 4.3)	-0.3(-40.5, 40.0)	0.3 (-7.8, 8.3)	-7.0 (-36.3, 22.2)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.0 (-0.3, 0.4)	-0.2(-0.4,-0.1)***	-0.3 (-0.6, 0.0)**
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Community dis (R)	--	--	--	--
Q 1-4* Community disengagement		-0.1 (-0.5, 0.4)		0.1 (-0.3, 0.4)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--		
Q 1-4	-5.3 (-16.4, 5.8)	-15.5(-38.9, 7.9)	-1.9 (-10.1, 6.3)	11.5 (-3.7, 26.8)
Social exclusion				
Noise	0.0 (-0.2, 0.2)	-0.2 (-0.8, 0.3)	0.1 (-0.1, 0.2)	0.4 (0.1, 0.8)**
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Noise (R)	--	--	--	--
Q 1-4*Noise		0.3 (-0.3, 0.8)		-0.4 (-0.7, 0.0)**
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	0.0 (-12.1, 12.1)	-7.2(-25.8, 11.4)	-3.5 (-12.6, 5.5)	-1.7 (-15.2, 11.8)
Social exclusion				
Crime	-0.2 (-0.3, 0.0)*	-0.5 (-1.1, 0.1)	0.0 (-0.1, 0.1)	0.1 (-0.4, 0.5)
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Crime (R)	--	--	--	--
Q 1-4 *Crime		0.3 (-0.3, 1.0)		-0.1 (-0.5, 0.4)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	-6.0 (-18.2, 6.1)	-16.0 (-38.6,6.6)	-1.3 (-9.6, 6.9)	-9.7 (-27.5, 8.2)
Social exclusion				
Incohesion	-0.2 (-0.3, 0.0)**	-0.4 (-0.8, 0.0)*	-0.2(-0.3, 0.0)***	-0.3 (-0.6, 0.0)**
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Incohesion (R)	--	--	--	--
Q 1-4 *Incohesion		0.2 (-0.2, 0.7)		0.2 (-0.2, 0.5)

Notes: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction; (R) = reference category

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

5.3.2 Mental Health: Main-Effect and Interaction Models

Table 5.22 through to 5.28 present the results of the association between individual and neighbourhood-level characteristics and mental health by level of vulnerability to social exclusion for men and women. As per the previous section statistically significant interactions are graphed.

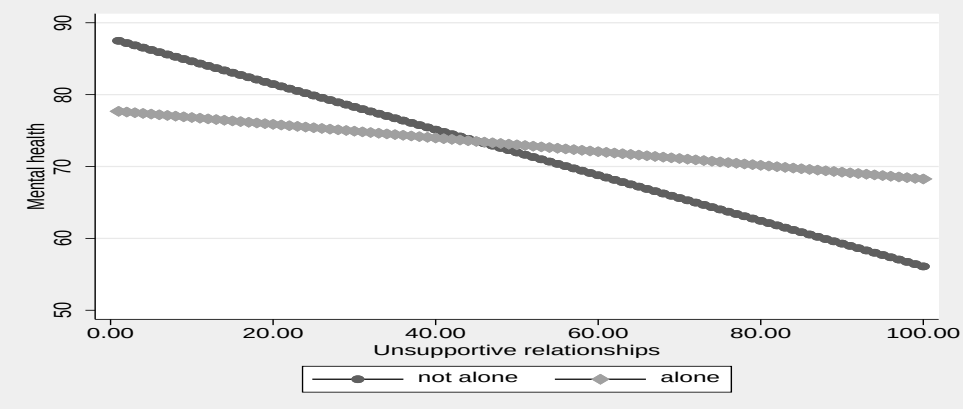
Household Composition, Social Exclusion, and Mental Health

Table 5.22 shows the main-effect associations and interactions between household composition, social exclusion, and mental health for men and women.

Household Composition, Unsupportive Relationships, and Mental Health. There was no association between household composition and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There were significant adjusted associations between unsupportive relationships and mental health for men and women: those who perceived they had unsupportive relationships also reported poorer mental health. There was a significant interaction between household composition, unsupportive relationships, and mental health for men (but not for women). Figure 5.6 illustrates that the association between household composition and mental health is modified by levels of unsupportive relationships and differs more for men who live in a multi-person household. For these men, improvements in relationships, improves mental health.

Figure 5.6

Interaction Graph: Contribution of Unsupportive Relationships on the Association Between Household Composition and Mental Health for Men



Note: mental health scale- higher scores denote better mental health; unsupportive relationships scale- higher scores denote higher exclusion

Household Composition, Community Disengagement, and Mental Health. There were no statistically significant adjusted associations between household composition and mental health: reported mental health status was similar irrespective of whether men or women lived alone or with someone else. There were no significant adjusted association between community disengagement and mental health, nor were there significant interactions between household composition, community disengagement, and mental health for men or women.

Household Composition, Noise, and Mental Health. There was no association between household composition and mental health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between noise and mental health, nor were significant interactions between household composition, noise, and mental health for men or women.

Household Composition, Crime and Mental Health. There was no association between household composition and mental health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There were no significant adjusted association between crime and mental health, nor were significant interactions between household composition, crime, and mental health for men or women.

Household Composition, Incohesion and Mental Health. There was no association between household composition and mental health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For women (but not men), there was a significant association between neighbourhood incohesion and mental health, with heightened perceptions of neighbourhood incoheison associated with worse mental health. There were no statistically significant interactions between household composition, neighbourhood incohesion and mental health.

Table 5.22

Association Between Household Composition, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-2.3 (-8.7, 4.1)	-10.0 (-20.6, 0.5)	2.9 (-3.2, 9.1)	3.5 (-6.6, 13.5)
Social exclusion				
Unsupportive Relationships	-0.2 (-0.3, -0.1)***	-0.3(-0.5, -0.2)***	-0.2 (-0.3, -0.1)***	-0.2 (-0.4, 0.0)
Household composition by social exclusion				
Not live alone*Unsupportive rel. (R)	--	--	--	--
Live alone*Unsupportive Relationships		0.2 (0, 0.5)*		0.0 (-0.3, 0.2)
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-5.9 (-12.4, 0.7)	-22.7 (-53.2, 7.9)	3.5 (-2.8, 9.7)	1.1 (-28.2, 30.3)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	-0.1 (-0.3, 0.2)	0.0 (-0.2, 0.1)	-0.1 (-0.4, 0.3)
Household composition by social exclusion				
Not live alone*Community Part. (R)	--	--	--	--
Live alone* Community		0.2 (-0.1, 0.5)		0.0 (-0.3, 0.4)
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-4.6 (-11.1, 1.9)	-2.6 (-15.7, 10.6)	4.4 (-1.8, 10.6)	3.8 (-8.4, 15.9)
Social exclusion				
Noise	0.0 (-0.1, 0.2)	0.0 (-0.1, 0.2)	0.0 (-0.1, 0.1)	0.0 (-0.2, 0.2)
Household composition by social exclusion				
Not live alone*Noise (R)	--	--	--	--
Live alone*Noise		-0.1 (-0.3, 0.2)		0.0 (-0.2, 0.3)
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-2.5 (-9.4, 4.3)	3.2 (-7.9, 14.2)	3.7 (-3.1, 10.5)	0.6 (-9.3, 10.5)
Social exclusion				
Crime	-0.1 (-0.2, 0.1)	0.0 (-0.2, 0.2)	0.0 (-0.1, 0.1)	-0.1 (-0.3, 0.2)
Household composition by social exclusion				
Not live alone*Crime (R)	--	--	--	--
Live alone*Crime		-0.2 (-0.5, 0.1)		0.1 (-0.2, 0.4)
Household composition				
Not live alone (R)	--	--	--	--
Live alone	-5.2 (-12, 1.7)	-1.2 (-15.3, 12.9)	5.6 (-0.6, 11.8)	3.4 (-7.7, 14.4)
Social exclusion				
Incohesion	-0.1 (-0.2, 0)	-0.1 (-0.2, 0.1)	-0.2 (-0.3, -0.1)***	-0.2 (-0.4, 0)
Household composition by social exclusion				
Not live alone*Incohesion (R)	--	--	--	--
Live alone*Incohesion		-0.1 (-0.4, 0.2)		0.1 (-0.2, 0.3)

Note: Linear regression controlling for age and all covariates; Model 1: Main effects & Model 2: Interaction

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

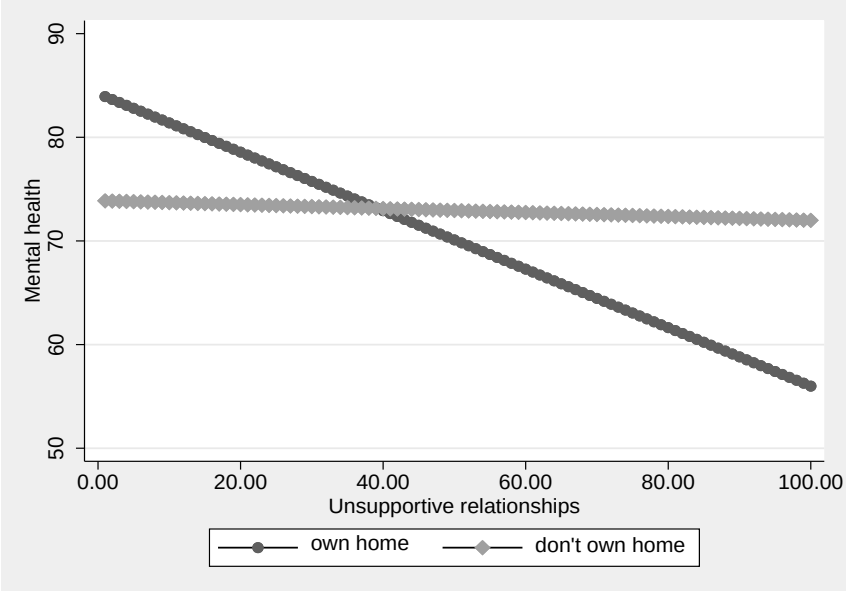
Housing Tenure, Social Exclusion, and Mental Health

Table 5.23 the main-effect associations and interactions between housing tenure, social exclusion, and mental health for men and women.

Housing Tenure, Unsupportive Relationships, and Mental Health. There was no association between housing tenure and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There were significant adjusted association between unsupportive relationships and mental health for men and women: those perceiving they had unsupportive relationships reported poorer mental health. There was a significant interaction between housing tenure, unsupportive relationships, and mental health for women (but not for men). Figure 5.7 illustrates that the association differs more for women who own their home, compared to women who do not own their home. For these women, the figure suggests that improvements in relationships, improves mental health.

Figure 5.7

*Interaction Graph: Contribution of Unsupportive Relationships on the Association Between Household Tenure and Mental Health for Women***.**



Housing Tenure, Community Disengagement, and Mental Health. There were no statistically significant adjusted associations between housing tenure and mental health: reported mental health status was similar irrespective of whether men or women owned their home. There were no significant adjusted association between community disengagement and mental health, nor were there significant interactions between housing tenure, community disengagement, and mental health for men and women.

Housing Tenure, Noise, and Mental Health. There was a significant association between housing tenure and mental health for men (not women) when simultaneously adjusting for neighbourhood noise and the covariates. Men who were not home owners had significantly higher perceptions of neighbourhood noise. There were no significant adjusted association between noise and mental health, nor were there significant interactions between housing tenure, noise, and mental health for men or women

Housing Tenure, Crime and Mental Health. There was a significant association between housing tenure and mental health for men (not women) when simultaneously adjusting for neighbourhood crime and the covariates There were no significant adjusted association between neighbourhood crime and mental health, nor were there significant interactions between housing tenure, neighbourhood crime, and mental health for men or women.

Housing Tenure, Incohesion and Mental Health. There was no association between housing tenure and mental health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For women (but not for men), there was a significant association between neighbourhood incohesion and mental health, with heightened perceptions of neighbourhood incoheison associated with worse mental health. There were no statistically significant interactions between housing tenure and neighbourhood incohesion and mental health.

Table 5.23

Association Between Housing Tenure, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-4.1 (-11.4, 3.3)	-2.6 (-15.1, 9.9)	-2.2 (-8.3, 3.9)	-10.3 (-20.2, -0.4)*
Social exclusion				
Unsupportive Relationships	0.2 (-0.3 -0.1)***	-0.2 (-0.4, -0.1)***	-0.2 (-0.3, -0.1)***	-0.3 (-0.4, -0.1)***
Housing tenure by social exclusion				
Own home *Unsupportive Rels. (R)	--	--	--	--
Not own home *Unsupportive Rels.		0.0 (-0.3, 0.3)		0.3 (0.0, 0.5)**
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-6.5 (-14.1, 1.1)	-49.7 (-105.0, 5.6)	-3.9 (-10.1, 2.4	-14.6 (-44.7, 15.5)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.1)
Housing tenure by social exclusion				
Own home * Community	--	--	--	--
Not own home *Community dis.		0.5 (-0.1, 1.1)		0.1 (-0.2, 0.5)
Housing tenure				
Own home (R)	--	--		
Not own home	-8.5 (-16.4, -0.6)**	-13.0 (-27.7, 1.8)*	-3.9 (-10.3, 2.5)	-4.4 (-15.9, 7.0)
Social exclusion				
Noise	0.0 (-0.1, 0.2)	0.0 (-0.1, 0.2)	0.0 (-0.1, 0.1)	0.0 (-0.1, 0.1)
Housing tenure by social exclusion				
Own home *Noise (R)	--	--	--	--
Not own home *Noise		0.1 (-0.2, 0.4)		0.0 (-0.2, 0.3)
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-10.1 (-18.6, -1.5)**	-12.4 (-27.6, 2.7)	-3.0 (-9.7, 3.8)	-7.0 (-17.1, 3.1)
Social exclusion				
Crime	-0.1 (-0.2, 0.1)	-0.1 (-0.2, 0.1)	0.0 (-0.1, 0.1)	0.0 (-0.2, 0.1)
Housing tenure by social exclusion				
Own home *Crime (R)	--	--	--	--
Not own home *Crime		0.1 (-0.4, 0.5)		0.1 (-0.1, 0.4)
Housing tenure				
Own home (R)	--	--	--	--
Not own home	-8.2 (-16.9, 0.4)	-14.5 (-30.9, 1.9)	-4.0 (-10.3, 2.3)	0.0 (-11.2, 11.2)
Social exclusion				
Incohesion	-0.1 (-0.2, 0.0)	-0.1 (-0.2, 0.0)	-0.2 (-0.3, -0.1)***	-0.1 (-0.2, 0.0)**
Housing tenure by social exclusion				
Own home *Incohesion (R)	--	--	--	--
Not own home *Incohesion		0.2 (-0.2, 1.0)		-0.1 (-0.3, 0.1)

Note: Linear regression controlling for age and all covariates;
Model 1: Main effects & Model 2: Interaction
*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Income, Social Exclusion and Mental Health

Table 5.24 shows the main-effect associations and interactions between income, social exclusion, and mental health for men and women.

Income, Unsupportive Relationships, and Mental Health. There were no statistically significant adjusted associations between income and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. For both men and women there was a significant adjusted association between unsupportive relationships and mental health: those who perceived they had unsupportive relationships also reported poorer mental health. There were no significant interactions between income, unsupportive relationships, and mental health for men or women.

Income, Community Disengagement, and Mental Health. There were no statistically significant adjusted associations between income and mental health: reported health status was similar irrespective of level of income. There were no significant adjusted associations between community disengagement and mental health, and there were no significant interactions between income, community disengagement, and mental health for men or women.

Income, Noise, And Mental Health. There were no statistically significant adjusted associations between income and mental health. There were no significant adjusted association between noise and mental health, nor were significant interactions between income, noise, and mental health for men or women.

Income, Crime and Mental Health. There were no statistically significant adjusted associations between income and mental health when simultaneously adjusting for neighbourhood crime and the covariates. There were no significant adjusted association between neighbourhood crime and mental health, nor were significant interactions between income, crime, and mental health for men or women.

Income, Incohesion and Mental Health. There were no statistically significant adjusted associations between income and mental health for men or women when

simultaneously adjusting for neighbourhood incohesion and the covariates. For women (but not for men), there was a significant association between neighbourhood incohesion and mental health, with heightened perceptions of neighbourhood incoheison associated with poorer mental health. There were no statistically significant interactions between income, neighbourhood incohesion and mental health for men or women.

Table 5.24

Association Between Income, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	2.2 (-6.7, 11.0)	-0.7 (-9.3, 20.9)	-1.2 (-8.5, 6.1)	-7.5 (-19.3, 4.3)
Social exclusion				
Unsupportive. Rels.	-0.2 (-0.4,-0.1)***	-0.3 (-0.6, 0.0)	-0.2 (-0.3,-0.1)***	-0.3 (-0.5, 0.0)**
Income by social exclusion				
Q4 *Unsupportive R. (R)	--	--	--	--
Q1 (lowest)		0.1 (-0.3, 0.5)		0.2 (-0.1, 0.5)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	1.7 (-7.7, 11.1)	12.0 (-30.1, 54.2)	-2.3 (-10.2, 5.6)	7.9 (-18.2. 34.1)
Social exclusion				
CD	0.0 (-0.2, 0.2)	-0.1 (-0.4, 0.2)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.3)
Income by social exclusion				
Q4 * Community dis (R)	--	--	--	--
Q1 (lowest) *Com.dis.		-0.1 (-0.6, 0.4)		-0.1 (-0.4, 0.2)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	2.6 (-6.6, 11.9)	10.4 (-7.8, 28.5)	-1.4 (-9.2, 6.3)	2.6 (-11.1, 16.2)
Social exclusion				
Noise	0.0 (-0.1, 0.2)	0.1 (-0.2, 0.4)	0.0 (-0.1, 0.1)	0.1 (-0.1, 0.3)
Income by social exclusion				
Q4 (highest) *Noise (R)	--	--	--	--
Q1 (lowest) *Noise		-0.2 (0.6, 0.2)		-0.1 (-0.4, 0.2)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	6.1 (-3.9, 16.0)	5.9 (-12.2, 24.0)	-1.4 (-9.9, 7.2)	-9.1 (-22.3, 4.2)
Social exclusion				
Crime	-0.1 (-0.2, 0.1)	-0.2 (-0.1, 0.2)	0.0 (-0.1, 0.1)	-0.2 (-0.4, 0.1)
Income by social exclusion				
Q4 (highest) *Crime (R)	--	--	--	--
Q1 (lowest) *Crime		0.0 (-0.1, 0.1)		0.3 (-0.1, 0.6)
Income				
Q4 (highest) (R)	--	--	--	--
Q1 (lowest)	5.0 (-5.1, 15.1)	14.6 (-4.3, 33.6)	0.2 (-7.6, 8.0)	-0.5 (-13.4, 12.4)
Social exclusion				
Incohesion	-0.1 (-0.2, 0.0)	0.0 (-0.3, 0.3)	-0.2 (-0.3,-0.1)***	-0.2 (-0.5, 0.0)**
Income by social exclusion				
Q4 (highest) *Incohesion	--	--	--	--
Q1 (lowest) *Incohesion		-0.3 (-0.6, 0.1)		0.0 (-0.2, 0.3)

Note: Linear regression controlling for age and all covariates;
Model 1: Main effects & Model 2: Interaction
*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Country of Birth, Social Exclusion and Mental Health

Table 5.25 shows the main-effect associations and interactions between country of birth (English proficiency) social exclusion, and mental health for men and women.

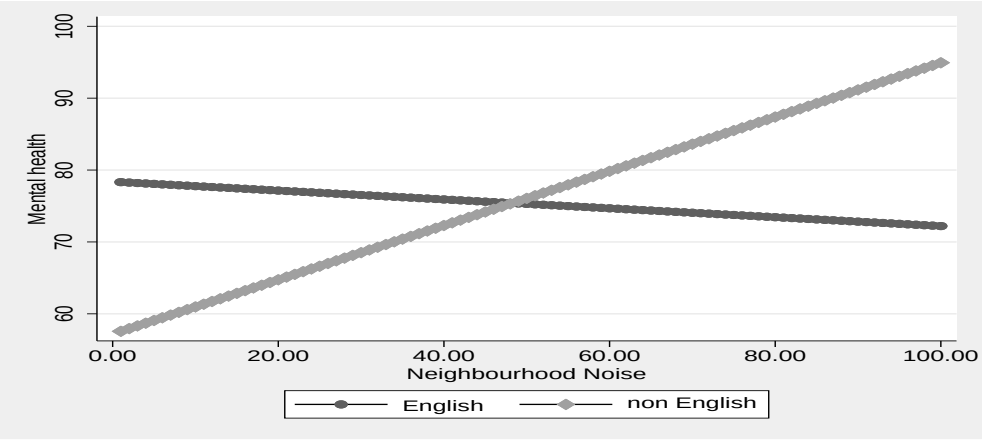
Country of Birth, Unsupportive Relationships, and Mental Health. There was no association between country of birth and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There was a significant adjusted association between unsupportive relationships and mental health for men and women: those who perceived they had unsupportive relationships also reported poorer mental health. There were no significant interactions between country of birth, unsupportive relationships, and mental health for men or women.

Country of Birth, Community Disengagement, and Mental Health. There were no statistically significant adjusted associations between country of birth and mental health: reported mental health status was similar irrespective of whether men or women were born in a country in which English was the main language spoken. There were no significant adjusted associations between community disengagement and mental health and there were no significant interactions between country of birth, community disengagement, and mental health for men or women.

Country of Birth, Noise, and Mental Health. There were no associations between country of birth and mental health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between neighbourhood noise and mental health. For women there was a significant interaction between country of birth, neighbourhood noise, and health. For women, the effect of English proficiency on mental health differed depending on level of perceived noise (Figure 5.8) and differed to a greater extent for those who were born in a country where English was not the main language. The graph illustrates that for non-English speakers, increasing levels of perception of neighbourhood noise increases self-rated mental health.

Figure 5.8

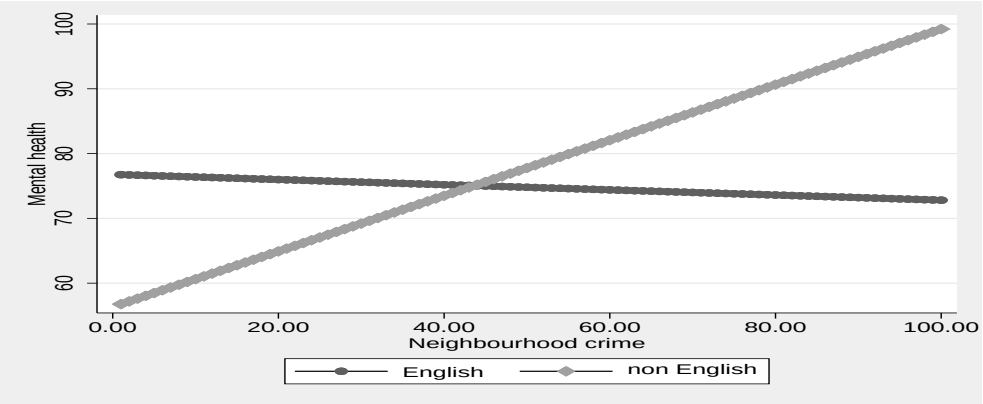
Interaction Graph: English Proficiency and Mental Health Modified by Level of Neighbourhood Noise for Women



Country of Birth, Crime and Mental Health. There was an association between country of birth and mental health for women (but not men) when simultaneously adjusting for neighbourhood crime and the covariates. Women who were born in a country where English was not the man language spoken had significantly poorer mental health. For women there was a significant interaction between country of birth, neighbourhood noise, and mental health. For women (not men), the effect of English proficiency on mental health differed depending on level of perceived crime (Figure 5.9) and differed to a greater extent for those who were born in a country where English was not the main language. The graph illustrates that for non-English speakers, increasing levels of perception of neighbourhood crime, increases self-rated mental health.

Figure 5.9

Interaction Graph: English Proficiency and Mental Health Modified by Level of Neighbourhood Crime for Women



Country of Birth, Incohesion and Mental Health. There was no association between country of birth and mental health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For men and women, there were no significant association between neighbourhood incohesion and mental health, and there were no statistically significant interactions between country of birth, neighbourhood incohesion and mental health.

Table 5.25

Association Between English Proficiency, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Country of birth				
English speaking (R)	--	--	--	--
Non English speaking	0.1 (-8.7, 8.9)	-7.5 (-24.5, 9.5)	-2.3 (-10.2, 5.5)	-10.7 (-24.9, 3.6)
Social exclusion				
Unsupportive Relationships	-0.2 (-0.4,-0.1)***	-0.2 (-0.4, -0.1)	-0.2 (-0.3, -0.1)***	-0.2 (-0.4, -0.1)***
Country of birth by social exclusion				
English *Unsupportive Rels. (R)	--	--	--	--
Non English speaking *Unsupportive		0.3 (-0.2, 0.7)		0.2 (-0.1, 0.6)
Country of birth				
English speaking (R)	--	--	--	--
Non English speaking	-1.0 (-10.0, 8.1)	-12.4 (-68.3, 43.5)	-4.8 (-12.8, 3.2)	-11.5 (-51.4, 28.4)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.1)
Country of birth by social exclusion				
English speaking *Community dis,	--	--	--	--
Non English speaking *Community		0.1 (-0.5, 0.8)		0.1 (-0.4, 0.5)
Country of birth				
English speaking (R)	--	--	--	--
Non English speaking	-2.4 (-11.9, 7.0)	6.0 (-11.6, 23.5)	-6.0 (-14.1, 2.3)	-21.2 (-34.8, -7.6) **
Social exclusion				
Noise	0.0 (-0.1, 0.1)	0.1 (-0.1, 0.2)	0.0 (-0.1, 0.1)	-0.1 (-0.2, 0.1)
Country of birth by social exclusion				
English speaking *Noise (R)	--	--	--	--
Non English speaking *Noise		-0.2 (-0.6, 0.2)		0.4 (0.1, 0.8)***
Country of birth				
English speaking (R)	--	--	--	--
Non English speaking	-6.5 (-16.7, 3.6)	0.0 (-14.9, 14.9)	-7.1 (-16.3, 2.0)	-20.4 (-34.5, -6.4)**
Social exclusion				
Crime	-0.1 (-0.2, 0.1)	0.0 (-0.2, 0.1)	0.0 (-0.1, 0.1)	0.0 (-0.2, 0.1)
Country of birth by social exclusion				
English speaking *Crime (R)	--	--	--	--
Non English speaking *Crime		-0.2 (-0.6, 0.2)		0.5 (0.1, 0.9)**
Country of birth				
English speaking (R)	--	--	--	--
Non English speaking	-4.3 (-14.5, 5.9)	-8.1 (-27.8, 11.5)	-4.7 (-12.8, 3.4)	5.2 (-12.1, 22.6)
Social exclusion				
Incohesion	-0.1 (-0.2, 0.0)	-0.1 (-0.2, 0.0)	-0.2 (-0.3, 0.1)	-0.1 (-0.2, 0.0)**
Country of birth by social exclusion				
English speaking *Incohesion (R)	--	--	--	--
Non English speaking *Incohesion		0.1 (-0.3, 0.5)		-0.2 (-0.5, 0.1)

Note: Linear regression controlling for age and all covariates;
Model 1: Main effects & Model 2: Interaction
*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

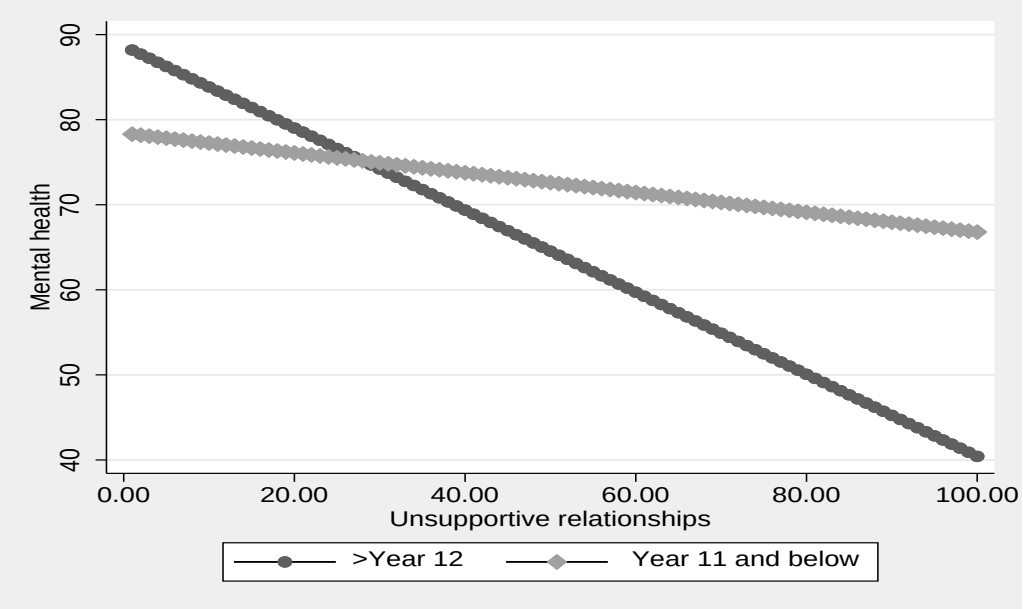
Education, Social Exclusion and Mental Health

Table 5.26 shows the main-effect associations and interactions between education, social exclusion, and mental health for men and women.

Education, Unsupportive Relationships, and Mental Health. There was an association between highest level of education obtained and mental health for women (but not men) when simultaneously adjusting for unsupportive relationships and the covariates. Women who finished school before year 11 reported worse mental health. There was a significant adjusted association between unsupportive relationships and mental health for men and women: those who perceived they had unsupportive relationships also reported poorer mental l health. The association between education and mental health was modified by levels of unsupportive relationships (Figure 5.10) and differs more for women who completed higher levels of education. For these women, the figure suggests that improvements in relationships, improves mental health.

Figure 5.10

Interaction Graph: Education and Mental Health Modified by Level of Unsupportive Relationships for Women



Education, Community Disengagement, and Mental Health. There were no statistically significant adjusted associations between education and mental health: reported health status. There were no significant adjusted association between unsupportive relationships and mental health, and there were no significant interactions between education, community disengagement, and mental health for men or women.

Education, Noise, and Mental Health. There was no association between education and mental health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between noise and mental health, nor were significant interactions between education, noise, and mental health for men or women.

Education, Crime and Mental Health. There was no association between education and mental health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There were no significant adjusted association between neighbourhood crime and mental health, and there were no significant interactions between education, neighbourhood crime, and mental health for men or women.

Education, Incohesion and Mental Health. There was no association between education and health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For women (but not for men), there was a significant association between neighbourhood incohesion and mental health, with heightened perceptions of neighbourhood incoheison associated with worse mental health. There were no statistically significant interactions between education, neighbourhood incohesion and mental health.

Table 5.26

Association Between Level of Education, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Level of education				
Year 11 and above (R)	--	--	--	--
Below Year 11	0.4 (-6.0, 6.8)	-2.2 (-13.0, 8.6)	-8.9 (-16.1,-1.7)**	-10.0 (-19.4, -0.6)*
Social exclusion				
Unsupportive Relationships	-0.2 (-0.3,-0.1)***	-0.3 (-0.4, -0.1)***	-0.2 (-0.3,-0.1)***	-0.5 (-0.7, -0.2)***
Level of education by social exclusion				
Year 11 and above *Unsupportive rel	--	--	--	--
Below Year 11 *Unsupportive rels.		0.1 (-0.2, 0.3)		0.4 (0.1, 0.6)***
Level of education				
Year 11 and above (R)	--	--	--	--
Below year 11	1.6 (-5.1, 8.2)	2.3 (-31.6, 36.3)	-0.5 (-6.8, 5.7)	-0.2 (-22.2, 21.8)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.2)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.1)
Level of education by social exclusion				
Year 11 and above *Community dis.	--	--	--	--
Below Year 11 * Community		0.0 (-0.4, 0.4)		0.0 (-0.3, 0.3)
Level of education				
Year 11 and above (R)	--	--	--	--
Below year 11	1.0 (-5.6, 7.6)	3.3 (-8.7, 15.3)	-1.8 (-7.7, 4.1)	2.3 (-8.2, 12.7)
Social exclusion				
Noise	0.0 (-0.1, 0.2)	0.1 (-0.1, 0.2)	0.0 (-0.1, 0.1)	0.1 (-0.1, 0.3)
Level of education by social exclusion				
Year 11 and above *Noise (R)	--	--	--	--
Below Year 11 *Noise		-0.1 (-0.2, 0.2)		-0.1 (-0.4, 0.1)
Level of education				
Year 11 and above (R)	--	--	--	--
Below year 11	0.3 (-6.5, 7.1)	3.1 (-7.9, 14.0)	-0.2 (-6.6, 6.2)	1.9 (-8.7, 12.4)
Social exclusion				
Crime	-0.1 (-0.2, 0.1)	0.0 (-0.2, 0.2)	0.0 (-0.1, 0.1)	0.1 (-0.2, 0.1)
Level of education by social exclusion				
Year 11 and above *Crime (R)	--	--	--	--
Below Year 11 *Crime		-0.1 (-0.4, 0.2)		-0.1 (-0.4, 0.2)
Level of education				
Year 11 and above (R)	--	--	--	--
Below Year 11	1.1 (-6.0, 8.2)	-1.7 (-13.9, 10.6)	0.3 (-5.6, 6.1)	-1.0 (-11.3, 9.6)
Social exclusion				
Incohesion	-0.1 (-0.2, 0.0)	-0.1 (-0.3, 0.1)	-0.2 (-0.3, - 0.1)***	-0.2 (-0.4, 0.0)*
Level of education by social exclusion				
Year 11 and above *Incohesion (R)	--	--	--	--
Below Year 11 *Incohesion		0.1 (-.0.2, 0.3)		0.0 (-0.2, 0.3)

Note: Linear regression controlling for age and all covariates;
Model 1: Main effects & Model 2: Interaction
*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Disability, Social Exclusion and Mental Health

Table 5.27 shows the main-effect associations and interactions between disability and long-term health conditions, social exclusion, and mental health for men and women.

Disability, Unsupportive Relationships, and Mental Health. There were significant associations between disability and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates: reported mental health status was worse among those with a disability. There were significant adjusted associations between unsupportive relationships and mental health for men and women, as those who perceived they had unsupportive relationships also reported poorer mental health. There were no significant interactions between disability, unsupportive relationships, and mental health for men or women.

Disability, Community Disengagement, and Mental Health. There were significant associations between disability and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There were no significant adjusted associations between unsupportive relationships and mental health for and there were no significant interactions between disability, community disengagement, and mental health for men or women.

Disability, Noise, and Mental Health. There were significant associations between disability and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. There were no significant adjusted association between noise and mental health, nor were significant interactions between disability, noise, and mental health for men or women.

Disability, Crime and Mental Health. There were significant associations between disability and mental health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There were no significant adjusted associations between neighbourhood crime and mental health and there were no significant interactions between disability, neighbourhood crime, and mental health for men or women.

Disability, Incohesion and Mental Health. There were significant associations between disability and mental health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For women, (but not for men) there was a significant association between neighbourhood incohesion and mental health, with heightened perceptions of neighbourhood incoheison associated with worse mental health. There were no significant interactions between disability, neighbourhood incohesion, and mental health for men or women.

Table 5.27

Association Between Disability, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Models (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Disability				
No disability (R)	--	--	--	--
Disability	-7.3 (-13.5, -1.2)**	-5.5 (-16.2, 5.2)	-8.9 (-16.1, -1.7)***	-10.3 (-21.6, 1.0)
Social exclusion				
Unsupportive Relationships	-0.2 (-0.4, -0.1)***	-0.2 (-0.4, 0.1))	-0.2 (-0.3, -0.1)***	-0.3 (-0.6, 0.1)
Disability by social exclusion				
No disability *Un Rels.(R)	--	--	--	--
Disability *Unsupportive		-0.1 (-0.4, 0.2)		0.1 (-0.3, 0.5)
Disability				
No disability (R)	--	--	--	--
Disability	-8.0 (-14.4, -1.6)**	13.2 (-21.5, 48.0)	-8.4 (-15.6, -1.2)**	-2.9 (-25.3, 19.6)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	0.2 (-0.1, 0.5)	0.0 (-0.2, 0.1)	0.0 (-0.2, 0.3)
Disability by social exclusion				
No disability *Com dis.(R)	--	--	--	--
Disability *Community dis.		0.2 (-0.6, 0.1)		-0.1 (-0.3, 0.2)
Disability				
No disability (R)	--	--	--	--
Disability	-9.2 (-15.5, -2.8)***	-10.1 (-22.5, 2.2)	-9.2 (-16.2, -2.2)***	-6.7 (-19.7, 6.2)
Social exclusion				
Noise	0.0 (-0.1, 0.2)	0.0 (-0.2, 0.2)	0.0 (-0.1, 0.1)	0.0 (-0.2, 0.2)
Disability by social exclusion				
No disability *Noise (R)	--	--	--	--
Disability *Noise		0.0 (-0.3, 0.3)		-0.1 (-0.3, 0.2)
Disability				
No disability (R)	--	--		
Disability	-9.3 (-16.1,-2.6)***	-9.3 (-20.3, 1.7)	-10.3(-18.0, 2.5)***	-3.8 (-17.0, 9.5)
Social exclusion				
Crime	-0.1 (-0.2, 0.1)	-0.1 (-0.4, 0.2)	0.0 (-0.1, 0.1)	0.2 (-0.1, 0.1)
Disability by social exclusion				
No disability *Crime (R)	--	--	--	--
Disability *Crime		0.0 (-0.3, 0.3)		-0.2 (-0.6, 0.1)
Disability			--	--
No disability (R)	--	--		
Disability	-9.2 (-16.0, -2.4)***	-1.4 (-14.3, 11.5)	-8.9 (-16.2, -1.5)***	-2.3 (-14.3, 9.7)
Social exclusion				
Incohesion	-0.1 (-0.2, 0)	0.1 (-0.2, 0.3)	-0.2 (-0.3, -0.1)***	0.0 (-0.2, 0.2)
Disability by social exclusion				
No disability *Incohesion	--	--	--	--
Disability *Incohesion		-0.2 (-0.5, 0.1)		-0.2 (-0.4, 0.1)

Note: Linear regression controlling for age and all covariates;

Model 1: Main effects & Model 2: Interaction

*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

Neighbourhood Disadvantage, Social Exclusion and Mental Health

Table 5.28 shows the main-effect associations and interactions between neighbourhood disadvantage, social exclusion, and mental health for men and women.

Neighbourhood Disadvantage, Unsupportive Relationships, and Mental Health. There was no association between neighbourhood disadvantage and mental health for men or women when simultaneously adjusting for unsupportive relationships and the covariates. For men and women there were significant adjusted association between unsupportive relationships and mental health. Those who perceived they had unsupportive relationships also reported poorer mental health. There were no significant interactions between neighbourhood disadvantage, unsupportive relationships, and mental health for men or women.

Neighbourhood Disadvantage, Community Disengagement, and Mental Health. There were no statistically significant adjusted associations between neighbourhood disadvantage and mental health: reported mental health status was similar irrespective of whether men or women lived in a disadvantaged neighbourhood. There were no significant adjusted association between community disengagement and mental health. There were no significant interactions between neighbourhood disadvantage, community disengagement, and mental health for men or women

Neighbourhood Disadvantage, Noise, and Mental Health. There was no association between neighbourhood disadvantage and mental health for men or women when simultaneously adjusting for neighbourhood noise and the covariates. There were no significant adjusted association between noise and mental health. There were no significant interactions between neighbourhood disadvantage, noise, and mental health for men or women.

Neighbourhood Disadvantage, Crime and Mental Health. There was no association between neighbourhood disadvantage and mental health for men or women when simultaneously adjusting for neighbourhood crime and the covariates. There were no significant adjusted association between neighbourhood crime and mental health and there

were no significant interactions between neighbourhood disadvantage, neighbourhood crime, and mental health for men or women.

Neighbourhood Disadvantage, Incohesion and Mental Health. There was no association between household composition and mental health for men or women when simultaneously adjusting for neighbourhood incohesion and the covariates. For women (but not men), there was a significant association between neighbourhood incohesion and mental health, with heightened perceptions of neighbourhood incoheison associated with worse mental health. There were no statistically significant interactions between neighbourhood disadvantage, mental health, and neighbourhood incohesion.

Table 5.28

Association Between Neighbourhood disadvantage, Social Exclusion and Mental Health for Men and Women: Main Effect (Model 1) and Interaction Model (Model 2)

	MEN		WOMEN	
	Model 1	Model 2	Model 1	Model 2
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	4.3 (-4.3, 13.0)	2.5 (-9.6, 14.5)	1.7 (-5.6, 9.0)	-4.0 (-16.1, 8.2)
Social exclusion				
Unsupportive Relationships	-0.2(-0.3, -0.1)***	-0.3 (-0.5, 0.0)*	-0.2(-0.3,-0.1)***	-0.4 (-0.7, -0.1)***
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Unsupportive Rels.	--	--	--	--
Q 1-4 *Unsupportive Relationships		0.1 (-0.2, 0.4)		0.2 (-0.1, 0.5)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	2.0 (-6.9, 11.1)	-5.1 (-38.3, 28.2)	1.0 (-6.3, 8.4)	19.9 (-6.9, 46.7)
Social exclusion				
Community disengagement	0.0 (-0.2, 0.2)	-0.1 (-0.4, 0.3)	0.0 (-0.2, 0.1)	0.2 (-0.1, 0.4)
Neighbourhood dis. by social exclusion				
Q5 (advantaged)*Community dis. (R)	--	--	--	--
Q 1-4* Community disengagement		0.1 (-0.3, 0.5)		-0.2 (-0.5, 0.1)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--		
Q 1-4	4.4 (-4.8, 13.7)	0.2 (-19.5, 19.8)	0.1 (-7.3, 7.6)	6.3 (-7.7, 20.3)
Social exclusion				
Noise	0.0 (-0.1, 0.2)		0.0 (-0.1, 0.1)	0.2 (-0.2, 0.5)
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Noise (R)	--	--	--	--
Q 1-4*Noise		0.1 (-0.3, 0.6)		-0.2 (-0.5, 0.2)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	6.5 (-3.3, 16.4)	2.0 (-13.3, 17.3)	-2.0 (-10.1, 6.3)	4.0 (-8.2, 16.2)
Social exclusion				
Crime	-0.1 (-0.2, 0.1)		0.0 (-0.1, 0.1)	0.3 (-0.1, 0.6)
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Crime (R)	--	--	--	--
Q 1-4 *Crime		0.2 (-0.3, 0.7)		-0.3 (-0.7, 0.1)
Neighbourhood disadvantage				
Q5 (advantaged) (R)	--	--	--	--
Q 1-4	3.9 (-6.1, 13.9)	-1.4(-20.2, 17.4)	-1.0 (-8.4, 6.3)	-3.3 (-19.3, 12.7)
Social exclusion				
Incohesion	-0.1 (-0.2, 0.0)	-0.2 (-0.5, 0.2)	-0.2(-0.3,-0.1)***	-0.2 (-0.5, 0.1)
Neighbourhood dis. by social exclusion				
Q5 (advantaged) *Incohesion (R)	--	--	--	--
Q 1-4 *Incohesion		0.1 (-0.2, 0.5)		0.0 (-0.2, 0.3)

Note: Linear regression controlling for age and all covariates;
Model 1: Main effects & Model 2: Interaction
*p≤ 0.1, **p≤ 0.05, ***p≤ 0.01

5.3.3 Section Summary

This section presented the results of the interaction models which examined whether associations between individual- and neighbourhood-level characteristics and health differ depending on level of social exclusion. For men who lived in a multi-person household, higher levels of perceived supportive relationships were associated with improvements in self-reported general health. There were results that suggested that higher levels of social exclusion contributed to better health. For example: for women who were born in a country where English was not the native language, higher perceptions of neighbourhood exclusion (i.e. crime and noise) had a positive effect on mental health; and for women living in disadvantaged neighbourhoods increasing neighbourhood noise had a positive effect on general health.

5.4 Chapter Summary

This chapter presented the results for the quantitative study of social exclusion among the oldest old. There were some associations between individual- and neighbourhood-level and social exclusion. For example, education may be protective against older age social exclusion, but living alone, and living in a poor neighbourhood may either protect or increases vulnerability to social exclusion depending on gender and domain of social exclusion used.

There were some statistically significant associations between social exclusion and health. For men, there were statistically significant negative associations between perceived unsupportive relationships, neighbourhood crime, neighbourhood incohesion, and general health (adjusting for covariates). For women, statistically significant negative associations were observed on the unsupportive relationships, community disengagement and neighbourhood incohesion measures. When analysing the relationship between mental health and social exclusion, a statistically significant negative association was observed between unsupportive relationships and mental health for men and women. Similarly, for women (but not for men) there was a significant negative association between neighbourhood incohesion, and mental health. The associations imply decreasing levels of social exclusion by increasing mental health.

The results of research question four- What contribution does social exclusion make to the association between individual-and neighbourhood-level sociodemographic factors and health? - showed limited evidence of effect modification. For men who lived in a multi-person household, higher levels of perceived supportive relationships were associated with improvements in self-reported general health. For women, there were instances were increasing levels of social exclusion increased or worsened reported health- depending on individual- and neighbourhood-level characteristics. For example, among non-English speakers, increasing levels of neighbourhood exclusion (i.e. crime and noise) increased self-rated general health. On the other hand, the association between education and mental health was modified by levels of perceived unsupportive relationships and differed more for women who completed higher levels of education. For these women, improvements in relationships, improved health. All of these observed differences are discussed in conjunction with the literature in Chapter 8.

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Chapter 6: Qualitative Study of Social Exclusion Among the Oldest Old - Methods

Informed by gaps in knowledge, the focus of the qualitative research component of this thesis is to understand the perspective and experiences of a group of older people both underrepresented in prior research and frequently cited as the most vulnerable to social exclusion – oldest old from socioeconomically disadvantaged backgrounds who live alone. Qualitative research is apt to study individual values, preferences, perspectives, social norms and expectations (Green & Thorogood, 2009) and is useful for exploring "complex lived experiences in vulnerable and difficult to study populations" (Travers, 2015, p. 11).

Guided by the conceptual model of social exclusion among the oldest old proposed in Chapter 3, and complementing the quantitative measures of social exclusion developed in Chapter 4, the use of semi-structured interviews within this mixed method design aimed to add depth and provide insight into prior life-course factors and lived experiences of social exclusion. Unlike quantitative methods, qualitative methods can explore the impact of critical life events that might trigger social exclusion (Weldrick & Grenier, 2018), or conversely, explore factors such as resilience that could protect against feeling socially excluded in very old age.

The literature review (Chapter 2) identified that the oldest old were more likely to be socially excluded because of their age, and social exclusion was more likely to be experienced by people of lower SEP. However, there was limited evidence to support this claim, due in part to the dearth of research conducted with community-dwelling oldest old from socioeconomically disadvantaged backgrounds. Contrary to expectations, the quantitative study exposed no compelling evidence that oldest old with lower SEP were more excluded than their more advantaged counterparts. Evidence of the experience and perceptions of social exclusion among the oldest old is required to develop recommendations for policy, practice and research.

While complementary, the qualitative study was distinct from the quantitative study and as such, was approached as an independent component within the convergent parallel mixed method study of social exclusion amongst the oldest old (see Chapter 3). A logical

sequence of questioning may typically first investigate “if” the oldest old perceive themselves to be socially excluded before investigating the “how” and “why”. The research questions were placed in the reverse order from above, because I did not want to assume from the outset that the oldest old would perceive themselves to be socially excluded, nor did I want to close off any potential discussion points. The interview guide reflected this order of investigation. The following research questions formed the foundation for the qualitative research component:

5) **What are the factors that exacerbate or protect against social exclusion among oldest old who live alone in public housing?**
6) **To what extent do this group perceive themselves to be socially excluded?**

This chapter outlines and provides a rationale for the qualitative research method. It details the selection and recruitment of interview participants, development of the data collection instrument, the data collection process, and the method of analysis. Chapter 7 presents the qualitative results.

6.1 Ethics Approval

A research ethics application for the qualitative component of this thesis was submitted to ACU Human Research Ethics Committee in November 2018, and after amendment was approved in January 2019 (see Appendix A). Ethical issues of particular importance in this research are highlighted in the recruitment and interview methods, and researcher reflexivity sections that follow.

6.2 Reflective Journal

From a constructivist and critical gerontologists viewpoint which guides this thesis, it is encouraged that researchers reflect on the research process. A method of demonstrating this is by keeping a journal (Berger, 2015). In this qualitative component of the mixed method study, a reflective journal was used to reflect on my experiences during the interviews, noting any assumptions, new thoughts, and areas for further exploration during subsequent interviews or analysis. The reflective journal made transparent any adaptations and learnings.

These reflections are provided throughout this chapter, as well as in the Discussion and Conclusion Chapter (Chapter 8).

6.3 Selection of the Study Population

A limitation of previous social exclusion research may be the failure to include those most likely to be excluded. Missing, or failing to recruit those at greater risk of social exclusion may make it difficult to address the key research aim, and the questions posed in this thesis. With these cautions in mind, the intention of the qualitative component of this thesis was to study those most likely to be socially excluded**.** Subsequently, the study population was selected according to three main criteria: aged 80 or older, living in public housing in a disadvantaged area, and living alone. Although it was desirable to recruit a study sample with these social and residential characteristics, there were foreseeable difficulties. Among some of my previous colleagues at the local community health centre, there was a perception that my target audience would be too sick to participate, sceptical of researchers and therefore not interested, or would not be mentally or physically capable of participating. Although these concerns were warranted, they can be mitigated with additional consideration and tailoring of material to the target audience. Development of trust and overcoming researcher skepticism can be addressed by partnering with a key gatekeeper, such as a relative or known community worker.

People living in public housing are recognised as among the most vulnerable to social exclusion (Vinson & Rawsthorne, 2015). However, focusing only on those in public housing may omit other socioeconomically disadvantaged groups, such as private renters. In Australia, living alone is more common in very old age, compared to younger ages (de Vaus & Qu, 2015). Some studies include living alone as an indicator of social exclusion (Key & Culliney, 2016), yet some people who live in multi-person households may also feel socially excluded. The rationale and limitations of the selection of the qualitative study population are summarised in Table 6.1.

Table 6.1

Rationale for Selection of the Qualitative Study Population

Participants	Rationale for Selection	Limitations of Selection Criteria
Aged 80 and over	Fastest growing population group (internationally & nationally) Historically least researched (due to mortality, frailty, access, non-response issues) Interventions for older adults (65+) may not work for 80+	Accessing participants for recruitment Capabilities (e.g. 40% of population have dementia, vision and writing difficulties) Lack of validated survey instruments for 80+ Health literacy issues among this population
Public housing residents	Recognised as among the most vulnerable to social exclusion Under-represented in population-based surveys Older people over-represented in public housing Trends of home ownership decreasing & older women being at high risk of homelessness Future demand for older person public housing likely to increase	Can also be socioeconomically disadvantaged and not live in public housing Difficult to engage public housing tenants
Living alone	Growing sociodemographic trend Linked to morbidity and mortality Vulnerable to social exclusion	Can be lonely and socially excluded despite living with others

6.4 Selection of the Qualitative Study Location

The study location was an inner suburb of Melbourne, Victoria. It was selected to best facilitate access to potentially vulnerable oldest old. The area was known to the researcher[11] and contained the population of interest. There was a high proportion of public housing units for single older people, and sufficient numbers of people aged 80 and older according to Australian Bureau of Statistics data from 2016 (Australian Bureau of Statistics, 2016). The number of people aged 80 and over living in the study area was estimated to be 60, including people with all types of housing tenure.

The study locality was also characterised by socioeconomic disadvantage as measured by the Australian Bureau of Statistics Socioeconomic Index for Areas (ABS SEIFA index) (Australian Bureau of Statistics, 2018a). For example, the study area covered five small area level census districts and in 2016 the *Index of Relative Socio-economic Disadvantage* (IRSD) scores for these census districts ranged from 781 to 873 with an average of 840. In comparison the suburb of Melbourne had an IRSD score of 992. Lower scores signify higher relative disadvantage. It should be noted that only 9% of Australia's suburbs have a SEIFA index lower than the study area (i.e. are more disadvantaged).

In Australia, state governments manage public housing, a form of long term affordable rented housing. Each state has different public housing stock, management structure and eligibility criteria. In Victoria, the eligibility for public housing for people aged over 55 is based on those most in need, especially people who have recently experienced homelessness or are at high risk of homelessness (Department of Health and Human Services-Victoria, 2019).

Public housing has been a feature of the study location since World War II. The Housing Commission of Victoria (established 1938 -1984) acquired cheap land to build housing "as quickly as possible for those recently returned to civilian life and catch-up on the lag of construction over the war years" (Housing Commission of Victoria, 1963, p. 3). In the 1960s the first double-story public housing blocks for older people were built. Public housing in the area was redeveloped in the early 1990s to improve safety and amenity. The redevelopment included affordable private housing and a mixture of older person and family

[11] Prior to commencing this PhD, I worked as a Healthy Ageing Project Officer in this study location.

public housing dwellings (Department of Planning and Development, 1995). There had recently been considerable change, with the older concrete public housing sold and redeveloped into multiple private units. Currently, older person public housing units are typically located in clusters and are either single level or two storey walk-ups. There are approximately 250 public housing units for people over 55 years in the study location (personal communication; Office of Housing, 2019).

Other features of the study location include a local community health centre, neighbourhood house and primary school. There is a row of shops on one street, but with exception of a small convenience store (milk bar), they are all boarded-up and covered with graffiti. The area is serviced by several public buses and is within one kilometre of a major shopping centre. There are no green spaces, such as parks or public playgrounds in the study suburb.

6.5 Recruitment Method

Recruitment and interviewing took place over 3 months (March-May 2019). As there were many foreseeable barriers to participation such as cognitive capacity and social vulnerability, the original proposal of selecting those aged 85 and over (so the age groups of both the quantitative and qualitative samples were consistent) evolved to include those aged 80 and over. Beyond the key eligibility criteria, the aim of the sampling strategy was to recruit participants with a diversity of socio-demographic characteristics, such as ethnicity and gender. For example, efforts were made to interview people born overseas via the assistance of an interpreter, as they are often under-represented in qualitative research (Kristensen & Ravn, 2015).

6.5.1 Informed Consent

A simple English participant information sheet and consent form were provided to each potential participant (refer Appendix C). These were adapted to suit the target audience, such as large font and replacing words with images. Furthermore, a verbal explanation made it clear that consent was voluntary and could be withdrawn at any time. A copy of the signed consent form was provided to the participants for their future reference. Participants were asked to consent to audio recording of the interviews. The interviews were recorded and later

transcribed. Having a verbatim and complete record of the interview was important to aid qualitative data analysis.

If I suspected that a person was cognitively impaired, I did not invite them to participate because of ethical concerns regarding social vulnerability. In one case where cognitive impairment became apparent after the interview commenced the interview transcriptions was excluded. No clinical screening tool was employed, instead general cognitive state was gauged by observing participant comprehension of the research and their ability to engage in conversation. This method of screening for cognition is consistent with the recommendations of researchers in the dementia field (Beattie, 2009; Davies et al., 2010).

The decision to not perform a formal cognitive assessment, relied on several factors that were taken into consideration. Firstly, all potential participants lived independently in the community and a degree of self-autonomy and competency can be assumed. Secondly, a formal assessment of mental impairment may pose unnecessary anxiety and distress to the participant, including, but not limited to, the fear of admittance to a nursing home. Thirdly, I did not have the expertise nor resources to follow-up on assessment and provide appropriate support. In practice, the exclusion of people based on comprehension and ability to engage in conversation raised some ethical concerns. A reflection on excluding people based on cognition is presented in the Discussion and Conclusion Chapter (section 8.8).

6.5.2 Purposive Sampling

Recruitment involved purposive sampling of individuals who were believed to be at high risk of social exclusion. Purposive sampling is defined as " a form of non-probability sampling in which the researcher aims to sample cases or participants in a strategic way, so that those sampled are relevant to the research questions that are being proposed" (Bryman, 2016, p. 694). Qualitative researchers tend to agree that purposeful selection of participants is the best strategy to gain in-depth insight into a research inquiry (Creswell, 2018b).

As described below, recruitment of interview participants involved doorknocking and visiting several community groups. These methods are considered suitable for recruiting *invisible* or hard-to-reach population groups (Bryman, 2016; Green & Thorogood, 2009; Liamputtong, 2013).

Doorknocking

Recruitment of the interview participants commenced with doorknocking of older person public housing. As I had previously worked in the study location, I used my prior knowledge to identify these units. Failing response, an information letter was left at the residence informing them of the next scheduled doorknock (refer to Appendix D). Non-responsive units were doorknocked on a subsequent visit which was scheduled to occur two days after the first. The information sheet helped establish familiarity and trust in the research, as residents indicated they were aware of the study on the subsequent visit. However, none of the re-visited residents were eligible to be recruited into the study as they were aged younger than 80.

The face-to-face recruitment method of doorknocking had several advantages compared with recruitment via formal invitations. For example, doorknocking was well-suited to negating barriers of poor literacy and accessibility. Previous research with older people found that doorknocking can reduce reliance on reading written material, either sent as a letter or displayed in public areas (Liljas et al., 2017). In addition, doorknocking provided an opportunity to explain the research in simple language, and for me to gauge participant suitability (i.e. age, and their ability to understand my research).

Doorknocking has been discouraged in disadvantaged neighbourhoods (Scharf, 2005). Previous studies rejected the option of doorknocking on grounds of potential safety risks that could arise from cold-calling and "the distinct likelihood of failure" (Scharf, 2005, p. 37). Indeed, Scharf (2005) inferred that participants would not open their door to strangers. It is important to note that this view was obtained from focus group participants. It is worth questioning as to whether focus group participants would have the same opinion as other older people, for example people who are housebound or even those who find focus groups overwhelming or unappealing.

Community Organisations

The original research design was developed to recruit exclusively via doorknocking single older person public housing units. Only a small number were recruited this way (n=8). To increase the sample size, the recruitment strategy was supplemented with recruitment through community organisations. I used my previous professional networks to attend meetings of community groups, including a social support group, senior citizens group,

neighbourhood house, and community garden group. A benefit of this technique was the ability to explain the research in person to members of these groups and gain the trust of potential research participants. The community workers (who I knew) vouched for my authenticity, and potential participants could form an impression based on my appearance and personality. An additional five participants were recruited using this approach.

The main criticism of this recruitment method through community organisations, is that participants may not be representative of the wider population and therefore be biased towards a particular sub-group (Holland, 2005). For example, social clubs tend to address the needs of older women, and subsequently older men maybe underrepresented (Holland, 2005). Researchers also caution that recruiting through social groups may overestimate the importance of social relationships in ageing (Poon et al., 2016). These drawbacks were overcome by recruiting through multiple community organisations that were mixed gender.

Translator for Non-English Speaking Participants

A frequently reported risk factor for social exclusion is having a culturally and linguistically diverse (CALD) background (Federation of Ethnic Communities' Councils of Australia, 2015). In Australia (and other native English speaking countries) poor English language proficiency may create barriers to social inclusion and barriers to accessing services. In Australia, it is estimated that approximately 20% of people over 80 years where born overseas (Federation of Ethnic Communities' Councils of Australia, 2015). In the study location, the predominant CALD backgrounds of older people were Italian and Greek (personal communication). Through the process of recruitment, I identified a Greek speaking older person who was willing to talk to me through an interpreter. Therefore, a Greek interpreter was engaged to assist with the recruitment and interviewing of this participant. [12] The interpreter translated the informed consent process and interview questions and then translated the participant's response back into English. The translator was known to the participant[13] and they indicated a rapport had been developed over numerous years.

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[12] No Italian speaking potential participant was identified during the recruitment process; hence I did not engage an Italian interpreter.

[13] The translator was a previous colleague of mine and they also vouched for my authenticity which played a part in the successful recruitment of this person.

6.5.3 Safety Protocol

The safety risk to lone field researchers in disadvantaged neighbourhoods is a serious consideration in conducting field research. For the qualitative fieldwork, a safety protocol was developed. This included the implementation of a researcher safety "buddy" system. I called my supervisor before conducting recruitment and to notify him about details of any interview location and time (Paterson et al., 1999). This awareness of my location was backed-up by the commencement and conclusion of fieldwork at the local health centre. This also gave me the opportunity to debrief by discussing the wellbeing of those I doorknocked and if necessary, organising welfare checks for any people who to me seemed especially unwell or vulnerable.

All visits were conducted during daylight hours - 10am to 3pm - Monday to Friday. And as I knew the study location, I avoided potentially hazardous sites such as back alleys, stair wells, and locations out-of-site from others. It is plausible that in avoiding these areas and restricting my hours, I may have missed potential participants. Researcher safety was a key concern in gaining ethics approval, and these restrictions were unavoidable.

6.6 Interview Method

6.6.1 Face-to-Face Interviews

The interviews were conducted face-to-face, which was particularly advantageous in the case of participants with sensory decline, as adaptions could be made. For example, moving closer to the participant, providing more eye-to-eye contact, and using exaggerated facial expressions to aid lip reading when participants were hearing impaired.

Participants were asked where they would like the interview to be conducted. Options included their own home or the local community centre or neighbourhood house. Most interviews occurred in the participants' own home (n= 10), whilst one occurred at a community health centre and another at a neighbourhood house. Initially, I had planned to

interview participants privately, however, it became clear that for some participants, they needed the support or presence of a trusted other, referred to here as *gatekeepers*[14].

An advantage of conducting face-to-face interviews was that it enabled reciprocity (Travers, 2015). Reciprocity in qualitative research is concerned with a power balance in the relationship, with the researcher taking from the participant, but the participant also taking from the researcher. Importantly, no one takes advantage of the other (Harrison et al., 2001). Minimising possible power imbalances was achieved by being attentive to verbal cues, and observing non-verbal body language, to interpret enjoyment or distress from the interviewee. An appropriate response was then tailored to their needs. This included offering to change the subject or providing verbal comfort. As the researcher I was taking information from the participant, and as some participants remarked, they enjoyed the company during the interview. A reflection from my journal about reciprocity and power balances can be found in Chapter 8 (see 8.8.2).

The face-to-face interviews were based on an interview guide, which I describe in detail below. Interview duration was dependent on the willingness and capacity of participants to answer questions, and on the degree of diversion from the interview themes. Interview length ranged from 20 to 60 minutes, with a typical interview lasting about 30 minutes. An advantage of conducting semi-structured interviews was the ability to modify the length of interviews. Allowing the interviews to go over time (i.e. more than 30 minutes) provided an opportunity for greater social interaction (Wenger, 2002). Gerontologists generally encourage the use of semi-structured interviews as they can also be shortened to minimise fatigue (Jacelon, 2007). This did not seem to be necessary for the participants interviewed. However, it should be noted that the interview schedule was designed so that interviews could be completed within 30-45 minutes.

6.6.2 Semi-Structured Interview Guide

An interview guide was developed to direct the focus of the interviews and was structured around the social exclusion themes thought to be relevant to oldest old, identified in the review of the literature. The prepared semi-structured questions were used as a general

[14] A later section in the Discussion and Conclusion Chapter reflecting on ethical and practical considerations (section 8.8), discusses the role of gatekeepers in research in more detail.

guide to prompt conversation and check that all general themes were addressed which enabled subsequent analysis to be structured around the research themes. The semi-structured interview guide provided some structure, but also enabled reflective questioning and probing, prompting participants to provide additional detail, clarification and examples when needed.This also granted the interviewee the opportunity to freely express their thoughts, ideas and opinions (Denzin & Lincoln, 2018).

The semi-structured interview guide included 15 questions about experiences of living in the community, socialising and what is important in their advanced years. The interview guide covered the main themes of neighbourhood, social relationships, community and life-course, which with the exception of life-course were the same domains analysed in the quantitative study. One question explicitly asked about social exclusion and was placed towards the end of the interview (Q.13)[15]. The literature suggests that socially difficult questions are best placed towards the end of interviews to overcome initial interviewee nerves and scepticism of the researcher and research purpose (Liamputtong, 2013). The questions are presented in table 6.2. (see Appendix E for full interview schedule which includes direct and probing questions).

[15] This social exclusion question was considerably reworked throughout the interview process. My reflection on this can be found in section 7.3

Table 6.2.

Semi-Structured Interview Guide Exploring the Experience of Social Exclusion Among the Oldest Old

[Theme 1: Neighbourhood]	
Q1.	Please tell me about how you came to be living here
Q2	Do you like living here? Why/why not?
Q.3	And what about your neighbours? Can you tell me about your neighbours?
Q.4	What could be done, if anything, to make you like living here more?
Q.5	Is there anything that prevents you from feeling like you belong in your neighbourhood?
[Theme 2: Social Relationships]	
Q.6	Who are the most important people in your life and why?
Q.7	How has life been- living on your own?
Q8.a)	Can you tell me a bit about your social life?
...b)	Would you like more company?
[Theme 3: Community]	
Q9	Can you tell me about any places you like to go to?
Q.10 a)	Are there any reasons that prevent you from going out more?
...b)	What would make it easier for you to go out more?
[Theme 3: Life-course]	
Q.11	What's important for you in your older age?
Q.12	What worries you the most about ageing?
Q.13	I've read that as people become older, they become excluded or left out. Do you ever feel left out?
Q.14	Can you tell me one of the most valuable or satisfying moments you have had recently?
Q.15	Is there anything else you'd like to tell me about your life? Do you have any questions for me?

The development of the prepared questions was guided by the socio-ecological model of health and life-course. For example, direct and follow-up questions were added to focus on intrapersonal, and interpersonal factors (socioecological) and temporal factors such as health, experience of older age, long term neighbourhood exposure and diminishing social networks (life-course). An example of the different levels of enquiry for the supportive relationships theme is provided in Table 6.3.

Table 6.3

Example of Theory Guiding Interview Questions Relating to the Social Exclusion Theme of Supportive Relationships

Main Question	Probing and Direct Questions	Theory
Can you please tell me a bit about your social life?	Do you have plans that involve meeting or catching-up with people? How often and what? i.e. regular social groups or visitors	Socio-ecological model Interpersonal factors
	Do you enjoy meeting with that person/ doing that activity, or is it a strain on you?	Socio-ecological model Intrapersonal factors
Do you want more company?	If yes…What would make it easier for you to interact with/talk with more people? Are there any factors that prevent/restrict you from interacting with people? If no… That's fine, is there any main reason why you say that?	Life-course

6.7 Pilot Study Process and Outcome

The recruitment process and semi-structured interview schedule were initially piloted with one male and one female aged over 80, living alone. The pilot participants were identified via staff at the local community health centre. The pilot participants lived in the same suburb but did not live in single older person public housing[16]. The recruitment process/protocol was tested for cultural and cohort sensitivity. I listened to how this older generation described their day to day life and noted their word preferences. Based on the pilot, the interview schedule was revised to remove overlapping questions, identify weaknesses, and refine ambiguous questions.

Amendments were made to the recruitment process on the suggestion of a pilot participant. The following quote from a female pilot participant aged 87 highlights that older people may be hesitant to be interviewed, but would be more inclined to talk to me if I requested a conversation:

> I think people fear interviews. I know older people have stories to tell, but I think some think it's my life keep out of it! (laughter). When you said interview to me earlier on, I was thinking what is this about? Where are you from? What are you doing? Why? Some people won't like it at all. I am sorry to say. We are skeptical when people say they want to come and talk to you. Better to say can we just have a yarn together (Female, aged 87).

The pilot participants were also helpful in suggesting changes to interview questions. For example, an initial question asking, "*are you socially active"?* was replaced based on pilot interviewee's suggestions with "*can you please describe your social life*?" Changing the question from a closed to an open-ended question was felt to provide more insight into individual experiences and personal views. In summary, the piloting process was useful and enabled greater familiarisation with how the instrument worked in practice, and possible ways to build on questions to enable greater flow of conversation.

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[16] Pilot participants were purposely 'out of scope' due to the anticipated difficulty of recruiting 'in scope' study participants.

6.8 Qualitative Data Analysis

The aim of the qualitative analysis was to enhance knowledge of the factors that influence vulnerability towards, and prevention of, social exclusion among community dwelling oldest old who lived alone in a socioeconomically disadvantaged neighbourhood. A secondary intention was to provide new insights that could assist in refinement of the conceptual model of oldest old social exclusion.

From a constructivist viewpoint, a strength of qualitative analysis is it allows examination of the ways in which events, realities, meanings, and experiences, affect perceptions of a phenomena operating within society (Liamputtong, 2013). A constructivist paradigm assumes multiple realities; the belief that causes and effects are mutually interdependent, and that the researcher plays a role, as well as the interviewee, in creating understanding (Denzin & Lincoln, 2018). This is referred to as a subjective epistemology.

6.8.1 Thematic Analysis

In analysing qualitative research from a constructivist epistemology, the usual approach is to use grounded theory, whereby researchers derive theory from the views of the study participants (Kivunja & Kuyini, 2017). According to proponents, the strength of grounded theory lies in the cyclic nature of inquiry, with ongoing sampling and analysis until no more new constructs emerge. Once this saturation point has been reached, it is said that the emerging theory is grounded in empirical evidence (Green & Thorogood, 2009).

The approach taken in this thesis, however, was thematic analysis, framed around the broad themes developed in the conceptual model. Thematic analysis is a method of identifying and analysing patterns (themes) within qualitative data and interpreting participants' meanings (Braun & Clarke, 2006). Themes summarise important responses or meanings in relation to the overall research question. A common analytical approach in using themes around a researcher's theoretical understanding is to use a *theoretical thematic framework approach* (Willis, 2015). This approach is encouraged as "thematic analysis has limited interpretative power beyond mere description if it is not used within an existing theoretical framework that anchors the analytic claims that are made" (Braun & Clarke, 2006, p. 9).

The method undertaken in this thesis reflected the main phases of thematic analysis and was informed by Braun & Clarke (2006) and in summarised in Table 6.4. Some elements

of grounded theory were also applied to provide additional understanding, such as searching for relationships between themes and deviant or divergent cases (Green & Thorogood, 2009). The process of the thematic analysis was overseen by the supervisory team and the broad themes were discussed and agreed upon.

Table 6.4

Phases of Thematic Analysis used in Analysing Qualitative Interviews of Social Exclusion Experiences among the Oldest Old

Thematic Phases	Method
1. Familiarising yourself with your data:	Transcribing data and check for accuracy, reading and rereading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each topic area from semi-structured questionnaire
3. Searching for themes:	Collating codes into potential themes and gathering all data relevant to each potential theme - guided by key research questions
4. Reviewing themes:	Discussion and agreement on broad level themes from supervisors. Checking the themes work in relation to the coded extracts and the entire data set to generate a thematic map of the analysis.
5. Defining and naming themes:	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells in relation to research questions; generating clear definitions and names for each theme and how codes relate to each other.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Note: adapted from Braun & Clarke, 2006

The initial stage of thematic analysis involved checks for accuracy of transcribed interviews and noting the overall impression of the interview. Where relevant, inflection and tone were noted to give meaning within the text. Interview transcripts were then uploaded into the software package, NVivo 12, for coding (QSR NVivo). Coding for categories (phase 2) and themes (phases 3-5) were segmented according to the responses to each topic area generated by the interview; in this case the four broad social exclusion themes of neighbourhood, supportive relationships, community participation and life-course. Some researchers note that, at this stage, one needs to be careful not to "close-off" data because themes should still be data-driven, in order to assist in recognising the future themes (Braun & Clarke, 2006). This view was adopted in the analysis as it also aligned with elements of a constructivist approach that encourages constructs to emerge from the analysis. Once several common themes were drawn together, quotations from the interviews were used to support the findings.

Beyond categorising and coding data, the analysis also considered the relationships between codes and was guided by critical gerontology, socio-ecological and life-course theories, as outlined in Chapter 3. Questions that facilitated this included:

1. What is the sociodemographic profile of interviewees who report feelings of exclusion, and how does this relate to their views on neighbourhood exclusion, community participation and supportive relationships? (socio-ecological model of health)

2. How do interviewees' accounts of past events relate to their current perceptions of social exclusion? (life-course)

3. How do oldest old describe their role in preventing social exclusion in society? (critical gerontology)

As mentioned previously, this additional analysis is encouraged to move from a descriptive level, to a more analytic level. This was required for interpretation of the narratives, and thus construction of new knowledge about social exclusion amongst the oldest old.

6.9 Chapter Summary

This chapter presented information relevant to the qualitative method component of the mixed method study. Several factors highlighted the necessity to be flexible and sympathetic to the requirements enabling oldest old to participate in the study. Beginning with the recruitment process, persuading gatekeepers and establishing trust were important ethical considerations. Furthermore, the practicalities of researching people in their 80s and 90s from socioeconomically disadvantaged backgrounds, meant that doorknocking and face-to-face interviews in the older persons home was an appropriate method.

The semi-structured interview guide which covered four main social exclusion themes of social relationships, neighbourhood, community participation and life-course was presented. The qualitative analytic method of thematic analysis was also discussed. Chapter 7 presents the qualitative study results.

Chapter 7: Qualitative Study - Results

In this chapter, findings from the interviews are presented according to the main themes that emerged in response to the qualitative research questions. Guided by the constructivist paradigm that informed this thesis, the presentation of the qualitative results includes a full exposition of the research process leading to the research findings. Quotations from the interviews are used to support and explain the points and interpretations made. A conscious effort is made to include the lived experience of all interviewees. The approach to include marginalised older people is in response to calls from critical gerontologists (Biggs et al., 2003) who argue that researchers have an ethical responsibility to include underrepresented older people, even if they are hardest to recruit. This chapter also introduces the study participants.

7.1 Recruitment Results

Thirteen community dwelling oldest old were interviewed, however one interview was omitted from the study due to unsuitability[17]. A description of the recruitment outcome is presented in Table 7.1. Initially 150 homes were doorknocked. Approximately one-third elicited no response, and about one half of the prospective participants were under the age of 80 and thus ineligible. A common response from ineligible younger tenants was “I don’t think there is anyone over the age of 80 here”, in reference to their block of units. This opinion was also shared by staff at the local community health centre, who thought that residents in the general study area would most likely be younger and any older residents were likely to be very frail or ill. However, it is plausible that there were eligible participants within the homes where contact was not made. Of those where contact was made, and the occupant was potentially eligible (according to their neighbours), three refused and three did not speak English. A further two displayed cognitive difficulties, which made them ineligible. Eight interviews were achieved through door knocking. A further six were recruited through

[17] It became apparent once the interview had commenced that the participant had cognitive difficulty. The interview was omitted due to ethical concerns of interviewee vulnerability and capacity to consent.

facilitated community or social groups. These facilitated groups, run by either the local council or local health centre, included an ethnic specific social support group, community garden group, senior citizens club, and a planned activity group.

Table 7.1

Summary of Recruitment Method and Response

Recruitment Method	Number
Door knock n= 150	
Non-contact	56
Contact, but ineligible:	
Too young	78
Cognitive difficulties	2
Potentially eligible:	
Refusal	3
Non-English speaking	3
Interviews achieved	8
Community Organisations n= 4 groups	
Ethnic specific social support group	1
Community garden group	1
Planned activity group	2
Senior Citizens group	1
Interviews achieved	5
Total interviews achieved	13

7.1.1 Characteristics of Study Participants

Basic sociodemographic characteristics were collected during the interviews. An account of the demographic characteristics of those who consented and a reflection on the recruitment process is provided below. Reflection on participant selection is considered an important but rarely reported aspect of qualitative research.

> Participant selection is one of the most invisible and least critiqued methods in qualitative circles. Researchers do not just collect and analyse neutral data; they decide who matters as data. Each choice repositions inquiry, closing down some opportunities while creating others. (Reybold et al., 2012, p. 699)

A summary of the characteristics of the 13 research participants is presented in Table 7.2. All participants lived alone. There were six men and seven women. The age of participants ranged from 81 to 95. On average, females were older (87 years) than their male counterparts (85 years).

Regarding ethnic diversity, eight participants were born in Australia, two in countries where English is the main language, and three in countries where English is not the main language. Interviewees typically had mobility restrictions (i.e. use of wheelchair or walker), sensory impairment (i.e. hearing and vision) or both. Indeed, only one participant appeared to have no mobility or sensory disability. Housing tenure consisted of public housing; nine lived in single older person units, two lived in mixed age public housing, and two had purchased their home from public housing. The duration of time they lived in their current home or broader neighbourhood ranged from 2 to 63 years. On average, female interviewees had been a resident of their current home and broader neighbourhood longer than males. Pseudonyms were assigned to each interviewee, to protect their anonymity.

Table 7.2

Socio-demographic Characteristics of Interviewees

Gender	Age	Country of Birth	Disability type	Public Housing tenure	Length of residence[a]
Female					
Ada[d]	95	Australia	Mobility & sensory	older person unit	20
Mary	91	Australia	Mobility & sensory	older person unit	20
Beatrice	90	Australia	Mobility & sensory	own home (ex-public housing)	63
Sarah	87	Australia	Mobility	own home (ex-public housing)	62
Catherine	83	South-east Europe[b]	Mobility	older person unit	18
Edith	82	Australia	Mobility	older person unit	2
Holly	81	Australia	Mobility	mixed age unit	20
Male					
Andrew	89	Australia	Mobility & sensory	older person unit	8
Geoff	88	Australia	Mobility	older person unit	4
Keith	86	British Isles	Mobility & sensory	mixed age unit	10
Tom	85	British Isles	Mobility	older person unit	10
Chris	81	Mediterran-ean	n/a[c]	older person unit	3
Clifford	82	South-east Europe	Mobility	older person unit	20

Notes: [a] The duration of time living in their current home generally reflected the duration of time living in the broader suburb.
[b] Translator present at interview.
[c] No observed disability and was the only participant who currently drives a vehicle.
[d] Pseudonyms have been assigned to each interviewee.

A profile of each interviewee was formed over the course of recruitment and interviews and were based on my impressions, which I had noted in my reflective journal. These brief descriptions invite the reader to get to know the interviewees (McCormack, 2004). Along with their name, some details have also been slightly amended to protect anonymity.

Ada

I was introduced to Ada at a social support group and had arranged a time to interview her at her home. She was 95 and determined to live to 100. That would mean a birthday letter from the Queen! Her hope being that the Queen lives that long. Ada had lived in her unit for about 20 years. Her niece moved into the same estate soon after to be close to her. Ada's niece was present during the interview to "help explain my questions", although from what I could tell, Ada was sharp as a tack. Ada was blind and had a muscular degenerative disease. She could move a short distance around her unit, aided by her walker. She credited her ability to remain home (not in a nursing home) to her family. Ada loved going to her weekly social group and would like to go out more but is reliant on people taking her. Her dog provided great company, and she was proud that she had recently solved the problem of mouse-droppings in her unit. "I moved the dog food outside" she said with a grin.

Mary

As I approached Mary's unit a man who was covered in tattoos and walking a pit-bull terrier wanted to know "what's going on here?" I told him my reason and then he introduced me to his mother. Mary had been very sick and was just out of hospital, hence her son's visit. Mary was 91 and had lived in public housing all her life. Born with infantile paralysis, she had to develop resilience from a young age. Her grief over the death of 4 of her 6 children was palpable and she did not get out of her house because "maybe I'm not quite over the deaths yet". Mary recognised she was going blind but was determined to do things herself, "even if it took all day". About 20 years ago, when she first moved to her unit, she wanted to help older people and had established a group called *There is no need to be lonely*. It lasted a few years (until she got too sick herself) and she was even given an award from the local council for her efforts. She said she was not lonely herself.

Beatrice

Beatrice insisted it was "just another day" but she had brought her own cake to celebrate her 90th birthday the day I interviewed her. It was her choice to be interviewed at the health centre. Beatrice had Parkinson's and was hard of hearing which meant I had to sit quite close. She was jovial and we laughed a lot during the interview. She had moved into public housing with her husband. The relationship was abusive, and locals did not talk to her because of her husband's job. He was a policeman. She had one son. She got on well with her nephew and intended to give the information sheet (about my research) to him to "see if it is important". Beatrice had reluctantly joined the local social support program on the insistence of her doctor. Over time she had grown to love the group. People were so nice to her now – not like the old days.

Sarah

Sarah was 89 and had moved into public housing as a young newlywed. She had four children. In the early days, a trades person questioned her ability to pay for new flooring "ooh you're from the commission… you good for the money?" He had asked. She felt the neighbourhood had changed for the better. Her daughters visited regularly, and she felt very involved in their lives. She loved the social support group she attended once a week and was grateful that she was picked up and dropped home. "The driver is an expert at getting me and my walker in the bus," she laughed.

Catherine

Catherine was 83 and born in south-eastern Europe. A translator was engaged to help me interview her. Although married, her husband lived overseas (she doesn't appreciate any gossip about their relationship, especially any speculation about why he lives overseas). Her granddaughters gave her great joy. She helped care for them, when they were young. They visited regularly. After getting her hip fixed Catherine felt she had a new lease on life. Catherine had a busy social life and was a member of three social groups. The interview happened around Easter, and Catherine had been busy making traditional food. After the interview, she was going to take some food around to a friend (from one of her social groups) who had recently been in hospital.

Edith

My persistence paid off with Edith. She let me into her house on my third doorknock. On the first and second attempt she said she felt too sick (but I could come and try again). On the third time, she had home-help cleaning her bathroom. I imagine her change of mind was something to do with safety in numbers. Edith was 82 and had lived in public housing in the area since the break-up of her marriage. She had no choice on where she was housed, and she ended up in a neighbourhood she never warmed to. Edith raised four children and then one grandson on her own. She did not have much to do with her kids anymore because of difficult family relationships. Edith had a nasty car accident a few years ago (she could not remember the exact details) and was in a neck brace. She needed a walker to get around her flat. She was annoyed that her prescriptions were no longer delivered to her door. She said walking to the letter box was too painful. Her brother came about once a week and took her out for a drive and some shopping. She looked forward to that. She was adamant that she did not want to join a social group. She loved her cat.

Holly

Holly was 81. As I arrived at her house, I met her daughter in the driveway. She was about to take her mother to a medical appointment (Holly had had a fall and broken her wrist). Holly's daughter agreed I could try and speak to her mum the next day. Holly usually got out of bed at 2pm but she had made a special effort to get up early on the day of the interview. Holly had lived in her current unit for about 20 years. She had to find somewhere to live after her husband died, as she could not afford anything on her own. Sometimes her son lived with her. Before her stroke, she used to drive him to his Centrelink (welfare) appointments. Holly liked going to the pokies (gaming venues). She met friends there.

Andrew

Andrew was 89 and had lived in his unit for about 9 years. He absolutely loved his home and was proud of how neat and tidy he kept it. He told me he had a disability, and because of that he got fantastic help from the council. He had lived with his son previously, but things did not work out. He was divorced and had four children, two of whom were adopted. Andrew had a lady friend who had died 4 years ago. He missed her – "She was the best women I ever had" he reminisced. Andrew's daughter had undergone an operation recently and he hoped she would be well enough to visit him soon. He did not get any other visitors. He had a pet bird and felt content with the way things were.

Geoff

Geoff was 88 and had been the main carer for his disabled son. He moved to his current unit after his son died. Geoff's daughter came over regularly to check in on him and was there when I doorknocked. She helped facilitate the discussion between myself and her dad, but he seemed reserved throughout the interview. As a way of explaining his curt replies, his daughter divulged to me that her dad had been raised in an orphanage and that the death of his wife had gutted him. Geoff seemed more engaged in our conversation when we talked about his dog and footy team.

Keith

Keith was 86 and born in the British Isles. He was divorced and had two children. His son visited regularly and had recently taken him out to an AFL football game. That was a recent highlight. His son turned up while I was interviewing. I suspected it was to keep an eye on me to make sure I did not run away with the family jewels. Keith forced himself to get out for a walk most days because "I keep my legs working and my heart pumping, my bones working". He was very conversational, and his son remarked, "Dad, that is the most I've heard you every talk to someone". To which Keith replied, "that's because I've got someone to talk to". Keith did not like the idea of social groups. He said he was content with just his family.

Tom

Tom was 85 and born in the British Isles. When I knocked on his door, I had interrupted his cleaning; "My carer is about to come over you see" he explained. Things did not work out with his marriage and he had no children. He had lived in public housing more or less since he arrived in Australia, and his current home for 11 years. He had a dog for company. He was treated for cancer, and when discharged from hospital he had a carer assigned to help him. He looked forward to outings with his carer. Apart from that he did not go out socially, but he was fine with that.

Chris

Chris was 81 and born in Mediterranean Europe. He was divorced and had one son. Facing bankruptcy in his later years (aged about 70), he was relieved to be offered a home in public housing. Chris said after he retired (aged 78) it was hard for him to find something to do. He loved gardening. He planned to grow food that he can give to his neighbours. Chris

was the only person in my sample who had a car. He drove to the shops, and to watch his granddaughter and grandson play basketball. He would like to re-partner, because he missed the romantic company of women.

Clifford

Clifford was 82 and born in south eastern Europe. He was initially very suspicious of my research motives. He did not trust the government and described *My Aged Care*[18] as the "Mafia". He had had several turbulent relationships with women and had one son who was removed from his custody. Clifford felt helpless when his son was in prison. Clifford had a heart condition and a serious back injury. At work, he had lifted a frozen cow carcass that crippled him. That is what led him to public housing. He liked this public housing estate much more than the previous one because it was safe, and he could grow some fruit trees. He might consider going to a social group, if someone he knew went with him, or was there. He felt embarrassed to go by himself.

[18] My Aged Care is an Australian federal government program providing home support for community dwelling older people. For more information please see https://www.myagedcare.gov.au

7.2 Emerging Themes from the Qualitative Research

The following section is structured based on the two main qualitative research questions of this mixed method thesis. First, to identify the factors that exacerbated or protected against social exclusion; and second, to ascertain to what extent participants in the sample felt socially excluded. As mentioned in the introduction of this thesis a definition of social exclusion that guides this thesis, is proposed by Peace (2001): “Social exclusion incorporates how processes deprive people and communities access to opportunities to achieve well-being and security in the terms that are important to them” (p. 34). This definition calls for an understanding of processes of social exclusion that may be structural as well as individual-level lived experience. Implicit in this definition is a subjective assessment of quality of life.

In addition to the themes of sense of supportive relationships, sense of neighbourhood and life-course experiences, which were directly explored through the interview guide, four other themes emerged from the thematic analysis of interviews. They were:

- physical and mental health,
- sense of home and autonomy,
- psychological beliefs adaptations, and
- contributing to society.

Interviewees’ perspectives blended personal, neighbourhood and structural/macro factors within these themes. Figure 7.1 illustrates the seven key themes relating to social exclusion that emerged from the interviews. Under these seven themes, the barriers and enablers that influence perceptions of social exclusion are summarised in Table 7.3 and discussed in turn.

Figure 7.1

Thematic Map of Oldest Old Social Exclusion

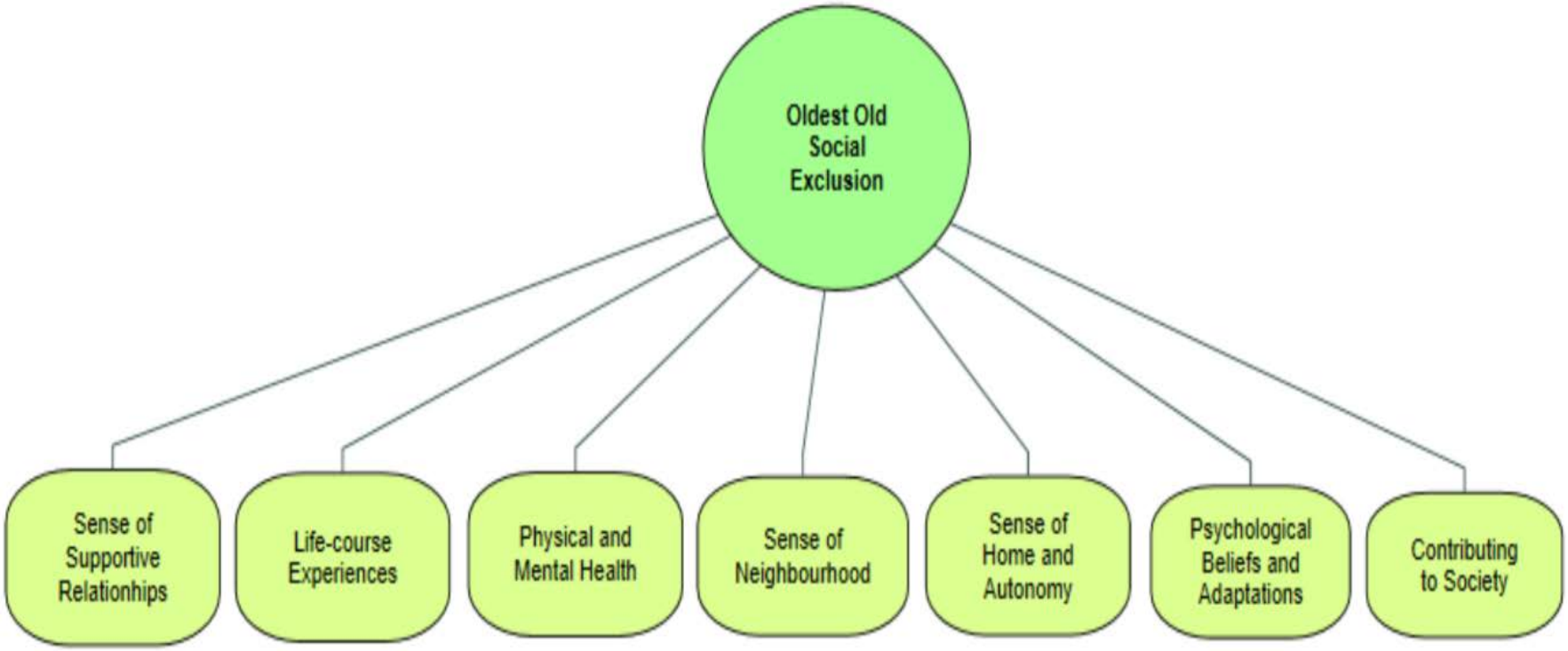

Table 7.3

Results of Thematic Analysis: Barriers and Enablers that Impact on Oldest Old's Perceptions of Social Exclusion

Theme	Barriers and Enablers
1. Sense of Supportive Relationships	Responses indicating supportive relationships influenced perceived social exclusion
Enablers	Reciprocal relationships - helping and being helped
	Presence of supportive family
	Presence of supportive friends
	Interaction with carers
	Participation in organised social groups
Barriers	Advanced age a barrier for forming romantic relationships
	Perceived intergenerational differences
	Estranged family
	Physical distance from family
	Aversion to gossip prevents close relationships
	Death of friends and family
2. Life-course experiences	Responses indicating life-course influenced perceived social exclusion
Enablers	Previous experience of exclusion i.e. resilience and relativeness
	Lifelong opportunity and learning to be socially competent
Barriers	Previous experience of life-course trauma (e.g. family separation, grief)
	Lifelong lack of opportunity and never learning to be socially competent
3. Sense of Physical and Mental Health	Responses indicating a sense of physical and mental health influenced perceived social exclusion
Enablers	Deterioration in health increases care from others
	Good treatment and respectful interaction with staff
Barriers	Disability limits opportunities to socialise and get out
	Sick friends are difficult/awkward to visit

Table 7.3 continued:

Results of Thematic Analysis: Barriers and Enablers that Impact on Oldest Old's Perceptions of Social Exclusion

Theme	Barriers and Enablers
4. Sense of Neighbourhood	Responses indicating a sense of neighbourhood influenced perceived social exclusion
Enablers	Perceived neighbourhood cohesion (despite not knowing and undesirable neighbours)
	Multicultural inclusiveness
	Close to amenities
	Perceived improvement in safety/prosperity
Barriers	Physical disability prevents knowing neighbours
	Lack of sense of belonging due to undesirable behaviours of others (e.g. drinking)
5. Sense of Home and Autonomy	Responses indicating a sense of home and autonomy influenced perceived social exclusion
Enablers	Sense of autonomy and independence
	Pets for company
	Stable, safe, comfortable home (relative to previous transitory/precarious housing)
6. Psychological Beliefs and Adaptations	Responses indicating a sense of psychological beliefs and adaptations influenced perceived social exclusion
Enablers	Sense of self (i.e. independence and rebellion)
	Feeling proud and lucky to be a survivor (also downwards comparison to others i.e. dead or ill)
	Adaptation and contentment with current situation
Barriers	Not wanting to be dependent, i.e. not wanting to be a burden or look incompetent or be associated with "old"

Table 7.3 continued:

Results of Thematic Analysis: Barriers and Enablers that Impact on Oldest Old's Perceptions of Social Exclusion

Theme	Barriers and Enablers
7. Contributing to society	Responses indicating contributing to society influenced perceived social exclusion
Enablers	Intergenerational solidarity
	Neighbourhood cohesion

7.2.1 Theme 1: Sense of Supportive Relationships

Having an attentive and supportive family were important factors that contributed to protecting participants from feeling socially excluded. For those without strong family ties, the presence of other social ties, such as with neighbours, associates (i.e. social group or club members) and carers, were equally important in reducing their perceptions of social exclusion. When prompted to share their view of the adequacy of their current relationships, the oldest old outlined they were content with their current situation. For most, their current social network was very small, solely comprising of family, and was a major focus point for both males and females. As illustrated by Keith, family inclusion was a source of great joy and was linked with his acceptance of a limited social life.

> Keith: Well every second week, you see my granddaughter works at the RSL [Returned Servicemen League], and every second week normally we go down there for a meal. My son and my grandson and his mates. Last time we went there was about 12 people on the table. Otherwise I don't have a great social life otherwise. I'm happy with the way I am because I'm happy with what I can do like. I don't go out to restaurants apart from that one… or any of that business. I pretty sort of look after myself. I cook my own meals and buy me own food.

The importance of having a supportive family was further emphasised by Keith later on in the interview.

Interviewer: And what would you say is important for you in older age?

Keith: It's just family really. They ring you up and see how you are going. Not very often (laughter) but sometimes you know. Well the thing is, the way I see it, I am as old as I feel. Last night I went to the football. I've got me son on one side and my grandson on the other side, they helped me down the stairs and all that business (laughter). I am all right. But stairs knocks your confidence. Make sure you don't fall down the stairs and all that business. You know. It was good to have them there though. They are very good. I love having family like that. I think that's what gives you confidence, confidence in doing the things you need to do. If I need to go somewhere, I know my son will take me there. You know that sort of thing. He lives around the corner with his wife, he spends a few days here. She's a nice person on her day (laughter). It was my son's birthday the other week. They picked me up and take me and bring me back you know.

The way participants talked about restrictions in supportive relationships implied a sense of normative expectations, implying diminishing social ties is normal and to be expected in old age, due mostly to outliving friends, family and partners. Normative expectations were also intertwined with life-course experiences and psychological adaptations that protected them from feeling socially excluded.

The oldest old place a high social value on their ability to live on their own and independently in the community. Relatives and carers (who were predominately daughters) play an important role in helping them to remain living independently, which participants appreciated. Assistance included: paying bills, shopping for groceries, cooking, and "doing a bit of washing" (Catherine). The following quote is from Ada who highlighted how grateful she was for the presence of her niece (Liz) who was her main carer. This example underscores how the presence of family support protects against reported social exclusion.

Interviewer: So, Ada, can you tell me how you came to be living here in name of suburb?

Ada: Oh, well, I lived in [name of street] first and Liz got me transferred when this flat became vacant, so that she could look after me.

Interviewer: Mm-hmm (affirmative). That's very kind of her.

Ada: Yeah. Gets me pension, and she's in charge of the book and all that, and... yeah... Pays all the bills, and she knows what I need and all that and she just gets it, you know?

Interviewer: It sounds like she's very helpful.

Ada: Oh, yeah. Oh, I couldn't deal without Liz.

Carer support was also identified as fundamental for mitigating against living in a nursing home, which was viewed as a negative outcome, as emphasised by Catherine, through her translator: “She says thank God she isn’t in a nursing home”.

The participants also appreciated support from community organisations to remain at home and this theme was intertwined with sense of home and autonomy. In the following example Andrew alludes to the link between good care, respect and autonomy. After a “stint in hospital”, he attributes his ability to remain living in his home despite his disability, to the help he receives from the council:

Andrew: Well as I’ve said, I've got everything thank God on a plate, I've got all the home help I can have and I've got the Council as far as I'm concerned, they've been a cracker to me. Because they've done a lot for me.

Taking part in organised social activities such as ethnic-specific groups, senior citizen group, or respite/planned activity group was described as a way of getting out and interacting with people. Although participants did not report close friendships within these groups, as Ada inferred, “Oh I don’t know her name”, they genuinely enjoyed the company and activities these facilitated social groups provided.

Interviewer: ... do you enjoy going on those outings?

Ada: Oh, I do. I love it. Yeah, I love it. I look forward to it.

Interviewer: Okay. What do you enjoy about it? What do you like about it?

Ada: Oh, well, I get amongst me friends and that. Otherwise, I don't see them, see? Yeah. You know, I'm stuck here. When Liz’s not here, I'm all by myself and all I got is the idiot box and- Yeah, well, I like, like, last Tuesday we had this fella singing and that, and some of the fellas from the shed (Men’s

> Shed) come up and some from PAG (planned activity group), and, oh, it was a real good little party. It was the best day I've ever had.

The importance of social groups in alleviating social exclusion was less evident in males' narratives than female participants. However, Tom liked the social interaction provided by an organised social group.

> Tom: I go out with my carer. I go out to ... I go down to the library in [name of suburb]. They've got a club down there. I go down every Tuesday, yeah. Or well, mostly every Tuesday, yeah…It's nice down there. A bit of lunch and a chat, you know? Meet a few people there.

The theme sense of supportive relationships also intersect with the sense of neighbourhood theme. The immediate neighbourhood environment in some circumstances, provided an opportunity for interaction with others. For example, the local community health centre, library, and senior citizen centre enabled participation and played a role in connecting older people through their social support programmes. It is important to note that involvement in these activities required a carer or a worker to provide the transport.

The analysis also revealed factors that restricted the sense of supportive relationships. Death and illness of friends and family was a common theme, with many commenting that they were the last ones left. Grieving for friends and family, especially their own children, continued to play a role in their current state of emotional wellbeing. Mary described the impact of the loss of her family:

> Mary: Well I've had a good life, but I miss me parents even now at my age and the brothers and sisters that have passed on. That's sad.

This reflection of being the 'last one' was shared by Andrew, who mentioned that the death of friends was to be expected, at his age. Although the death of family and friends may increase vulnerability to social exclusion through diminishing social relationships, interviewees saw death as a natural and expected outcome in old age.

Andrew: ... Now I had friends up in the nursing home up in [name of Road]. So my friend and his wife were both there, they were known when I lived up in [name of Suburb]. They lived up the road a bit. Anyhow, they've passed away since. So I used to go and see them, you know. Well that's the way it goes...

Interviewer: Oh, so you don't see any of your old mates anymore?

Andrew: They're all gone.

Another view, expressed by a male interviewee (Chris) from a culturally and linguistically diverse background (CALD) was the perception that his advanced age was an obstacle to forming a desired romantic relationship:

Interviewer: Do you ever feel like you're missing out on things that other people have? Anything that's missing from your life?

Chris: There's a lot of things, I guess. You want to know?

Interviewer: If you would like to tell me.

Chris: It's all right. Good company.

Interviewer: Good company?

Chris: The company of the woman… We have, men, we have a big problem.

Interviewer: You have a big problem?

Chris: We don't lose the attraction that we have, even ageing, but the ladies are different. When they are 70, they slow down. They don't worry very much.

When relatives lived far away, communication and visiting were restricted. Some interviewees desired to see more of their relatives, and it caused a sense of exclusion. Interviewees explained that the physical distance, expense and reliance on others were barriers to visiting relatives. In response to a question asking if she felt excluded from the broader community, Catherine deflected the question and indicated a preference for visiting relatives, rather than community participation.

Interviewer: Are there any places in the neighbourhood that you don't go to that you would like to go?

Translator: She wants to go visit her brother but it's too far. She used to go and visit him by train but now it's too far and she needs to go and stay for a week so the transport is a bit hard.

Catherine: Another train and another bus, is three hours. Too hard for me now. My son goes "Mum are you going to visit or I'll go." No ask.

Interviewer: The son doesn't ask? I wasn't sure (what she said).

Translator: If she asks her son he will take her. She doesn't want to bother him, because he works too hard.

Having opportunities to build social competency contributed to a sense of supportive relationships. On the other hand, having few opportunities was a barrier to having a sense of supportive relationships. As some narratives elucidated, social competence needed to be developed across one's lifetime (also related to the life-course theme) from younger ages to enable social inclusion in older age. Feeling shy and embarrassed were also underlying factors in this theme of social skills needing to be developed across the life-course. Clifford explains his reluctance to join a social group:

Interviewer: Can you tell me a bit about your social life? Do you ever meet with anyone or go out to different places?

Clifford: Never

Interviewer: Is that ok for you?

Clifford: Yes. You know what the problem is with me?

Interviewer: What is the problem?

Clifford: If I don't know people, I can't go there. I am embarrassed. Many times for my health my case manager tell me you go there you go there. I don't want to go, nobody I know there. If I go

Interviewer: If someone you knew took you would you go?

Clifford: Yeah, yeah, for me by myself no, it is very hard.

Not all interviewees desired more company or more opportunities for group socialisation. Some in fact were adamant that they did not want more company. The impact of lack of time and opportunities to make friends across a person's life is highlighted in the following quote:

Interviewer:	And do you have a social life? Do you go out to groups or friends or-
Edith:	No.
Interviewer:	Is it something that you would be interested in?
Edith:	No, see, I don't drink and most people drink.
Interviewer:	Okay. What about groups where they don't drink, where it's more of a social thing. You know how they have social groups up at the health centre, or neighbourhood house?
Edith:	No, no, no.
Interviewer:	That's not for you?
Edith:	No. I've never had time to go into that group-y thing. See, because, again, you work and you rear your kids and then you rear your grandkids. There's no time for that.

This response is representative of other interviewees who suggested that prior life-course opportunities play an important role in this theme of sense of supportive relationships.

7.2.2 Theme 2: Life-course Experiences

Life-course experiences were underlying and intersecting themes to emerge from the thematic analysis. Previous experiences of exclusion in some instances appeared to build resilience that protected against feelings of exclusion in old age. On the other hand, previous life experiences such as trauma, disability, family separation and grief, continued to negatively impact on wellbeing. The analysis revealed a tension: interviewees who had experienced trauma denied being socially excluded. Often it seemed that these people preferred to see themselves as survivors. An alternative interpretation is that perhaps other issues in their lives made feelings of their own social exclusion relatively unimportant. In the

following, Beatrice highlights how her experience of life-course trauma contributed to her feeling a relative lack of exclusion in her older age.

Interviewer: Did you know anything about [name of suburb] before moving here?

Beatrice: No, because nobody spoke to me.

Interviewer: Oh, why's that?

Beatrice: Because he [husband] was in the police force.

Interviewer: Oh, I see. So it was difficult?

Beatrice: And then there was no buses, so I used to walk up the hill and I went into the cake shop and the lady was so nice to me I cried all over the cake. Because somebody had been nice to me! They didn't want to know me!

Towards the end of the interview she said:

Beatrice: … Are we finished?

Interviewer: Unless you've got something else you want to say?

Beatrice: No I haven't got anything else, I don't want to get into a broken marriage and all that… I've tried to forget. But now these days they do more for you if you've had a real bad marriage. It's come too late for me…So I have to accept that and get on with my life, make the best. And I feel peace in my mind. I've got no worries. Oh well, bills and that but I mean, no arguments and all that. I feel contented in my life.

Interviewees discussed their experiences of challenging times throughout their lives. Long-term experience of public housing, disability, institutionalisation (e.g. orphanage), divorce, domestic abuse and family separation were among the lived experiences of some of the participants. Mary relayed a sense of resilience and relativity that she carried through with her in older age:

Mary:	Going back years and years ago, we were first in Camp Pell[19]…And, because there was no housing, so we were in army camps.
Interviewer	…And, did you know anything about this area before you came here?
Mary:	No. I've lived in quite a lot of places, all through the ministry …But, prior to that when I was about four I got infantile paralysis, I was under Sister Kenny[20]. I can't tell you from four till I was about 15. Because I was in the hospital for all those years…And mother and father split up, one of seven kids, and it was pretty tough on a girl back then. A lot tougher than what it is now…And, we used to walk up the street. "Oh, here comes hop along Cassidy". Because you lived and had all this eyes on you, and all that type of thing. I could turn around and be as nasty as those kids and say, "protestant dogs, jump like frogs". Sad as it is, these were the things that were said as you were a kid…Like “catholic dogs lie down” and you know. I mean, but instead of that you've got to hold the head up high and partly ignore that. Feel the shame that you are crippled and they're making fun of you. But you don't be a lap dog for anyone. You should show that you're equal as good as them. It's just a bit of inner strength comes from somewhere.
Interviewer:	Yeah. And, you've had that for a very long time.
Mary:	I've had to have it. Yeah

This interview extract also illustrates the important historical context of oldest old people’s lived experience and cohort experiences (see section 2.1.1). The example includes references to previous social distinctions and cultural norms based on religion, hardships during the depression, large number of siblings, and an experience of a childhood disease that can now be prevented through vaccination.

Alternative consequences of previous life-course exclusion were restrictions in social interaction. This was conveyed by several participants. For example, Clifford alluded to his

[19] Camp Pell was originally an army barracks. In the 1940’s the Victorian Housing Commission moved families living in the slums to Camp Pell. The settlement came to be known as 'Camp Hell' and was regarded as one of Melbourne's roughest slums.

[20]Sister Kenny was instrumental in pioneering physiotherapy treatment for children with infantile paralysis and set-up clinics throughout Australia.

lack of meaningful social relationships due to three failed marriages, disability and past criminal offences (of his son and his own). Although there was an underlying tone of loneliness, he denied feeling socially excluded, and implied he was more concerned with the grief of how his son was mistreated in a boy's home and later in prison.

Interviewer:	Who is the most important person in your life?
Clifford:	Here?
Interviewer:	Anywhere
Clifford:	I have a friend, but a long time I don't go and see him and now he move away.
Interviewer:	Oh, Ok. But do you do anything that makes you feel good?
Clifford:	I have a brother his son, live here for 14 years, never told me. I was angry with him. Blood relative
Interviewer:	Do you ever speak to your brother now?
Clifford:	I speak a little bit but straight away am crying, it is not fair. They grew up here and I don't know them.
Interviewer:	…I've been reading that as people became older, they feel more left out or excluded? Do you ever feel that way?
Clifford:	Absolutely not! I not did nothing. I leave everything to God. I am dirty on government after what they did to my son.

Mistrust and preference for self-exclusion were also other key factors for Geoff. It emerged (through his daughter, who played a key role in facilitating the discussion) that living in an orphanage and the death of his wife impacted greatly on his current self-exclusionary behaviour. Geoff implied that his drinking and behaviour pushed people away. The following interview extract illustrates his self-determined tone, as well as the gatekeeper role his daughter played in the interview[21].

[21] The gatekeeper disclosed information that may not have been forthcoming by the interviewee. I couldn't help but wonder who I was interviewing. See section 8.8 for my reflections.

Interviewer: Can you tell me a little bit about your social life?

Geoff: What's that mean?

Interviewer: Do you go out to groups, or do you go to visit people?

Geoff: No.

Interviewer: People come here?

Geoff: Some do, some don't.

Gatekeeper: He's got family.

Interviewer: You don't like the idea of being around other people?

Geoff: I don't.

Interviewer: No? Is there a reason for that? What do you think?

Geoff: I don't know, I can't work that one out

Interviewer: Are there any other places you like to go to, in the general community? Places that you-

Geoff: No, not really.

Interviewer: Anywhere that you'd like to go to that you don't?

Geoff: No.

Interviewer: You were saying before that you like a drink - do you ever go up to the pub?

Geoff: No, no way!.. If you go to the pub and have a drink, you get some smarties when they come and get too full, like myself, I argue with people, that's the point.

Interviewer: Yeah, okay. So you think you'd just prefer not... just to not worry about that?

Geoff: Yeah, just keep that away. I meet some people and you never see them again.

Gatekeeper: He was in an orphanage. Boys' Home and all that…So his life is different, so that was the way that he was brought up. And that's how he is today. ..And the reason why my dad's like this. Because he was a big family, and when he was little. His mum died, his dad was a prick…

Interviewer: Is that OK? Is that a fair thing that your daughter said?

Gatekeeper: Is that right, Dad?

Geoff: That's true.

Interviewer: So you don't really want to trust anyone?

Geoff: That's right.

Of note is that Geoff, Clifford, Edith and Mary, were all recruited via doorknock of single older person public housing and appeared objectively to be the most excluded of the sample. For example, they reported seldom venturing outside their units, nor did they participate in any social groups. Their interviews exposed that inclusion and exclusion are not mutually exclusive, as life-course hardship appears to protect and intensify feelings of exclusion simultaneously.

7.2.3 Theme 3: Physical and Mental Health

Interviewees' health status both reduced and increased perceptions of social exclusion. Poor mobility, eyesight and hearing, and chronic health conditions prevented interviewees from getting out into the community or visiting people. For example, Clifford alluded to his health negatively impacting on his general quality of life and social interactions:

Interviewer: Can you tell me one of the most valuable or satisfying moments you have had recently?

Clifford: That is hard. I have a problem with my heart. I am nearly dead 3 years ago. I take all this tablets. I not go outside. I am scared maybe getting sick.

Deterioration of health as a restriction to social relationships was not limited to the health of the interviewees themselves. It was also related to the perceived health of others. For instance, interviewees commented that visiting physically and/or mentally ill friends was awkward.

Sarah: You know what it's a very sad thing because most of my friends have passed away. I've got two very good friends that live in [name of suburb], yes I do see them. We're going out to their house, I think my daughter has written it on the board outside. I think it's on Wednesday I think we're going to their place. We don't get out a lot with them now because unfortunately her husband's got Parkinson and they don't go out much. I go to club on Thursday, that's about it.

On the other hand, poor health was sometimes a catalyst for greater levels of social interaction and care – which has links to the sense of supportive relationships theme. Tom described his recent illness and the welcome attention from shop keepers.

Tom: And then they got the ... they've got quite a few shops up there now. They've got restaurants and all up there now. Quite a few people. I know a lot of the girls that work up there, in Coles. I have a chat to them, you know.

Interviewer: Oh, that's nice.

Tom: Yeah, yeah.

Interviewer: They keep an eye out, they say hello to you?

Tom: Yeah, they do, yeah. They look out for me, because they knew I'd been sick, you know?

Another interviewee also described an increased sense of social inclusion with worsening health. For Mary, the best thing that happened to her recently was that her children had rallied around when she was sick.

Interviewer: Okay. And, can you tell me one of the most valuable or satisfying moments you've had recently?

Mary: Well, I don't know. What do you mean by that?(pause) I was quite glad, happy to see the kids come look after me the last - what since nearly 12 months because I've been ill. And, come in and stay for a couple of nights and then another one comes, like that…It's only two of them, but that's

what happens. And, it's rewarding. In other words, its thank-you for what you've done for me.

Some participants described how they appreciated the respect, attention and care provided by community and health personnel, and how this contributed to them not feeling socially excluded. Beatrice talked about her recent positive stay in hospital:

Interviewer: They treat you well? They respect you?

Beatrice: I shouldn't say bloody lovely but I do, I notice I'm saying bloody a lot lately. But no, the nurses and that, I can't say I've been ill-treated in the hospital, in fact I'm grown to like being there. I'm being waited on, when I've been in a long while, you know. And I get to know them and when I come home I think, oh I'll have to get my own meals, you know! No, I can't say a [bad] word about it.

7.2.4 Theme 4: Sense of Neighbourhood

For most, the journey that ended in living in single older person public housing, reflected some form of social or economic hardship. Divorce, domestic abuse, financial difficulties, and lifelong living in public housing were common trajectories. Most interviewees had no or very little input in where they were to be housed. Very few had prior knowledge of the suburb or neighbourhood they moved into, as Sarah articulated:

Interviewer: Did you know anything about this area before you moved here?

Sarah: Nothing. I knew nothing because as I said, I was brought up in [name of suburb], and I was pretty country sort of girl. No it was quite a shock actually when I came here.

The interviews highlighted how the oldest old commonly conceptualised their neighbourhood as consisting of the specific block of their housing estate. There was little evidence of neighbourhood being conceptualised at the broader suburb level. Most interviewees did not venture far from their own home, and particularly the older women described themselves as being mostly housebound, with Edith commenting, “I’m in here”; and Beatrice, “I don’t get to the city anymore”. Of the few who had recently been to public

community venues such as an Australian Rules football game (Keith), and a Gambling venue (Holly), they were reliant on their family to take them. In this way, the findings relating to a sense of neighbourhood also intersect with the sense of supportive relationships theme as discussed above, in particular the importance of family support and provision of care.

Feeling safe was often relayed in the historical context of increasing neighbourhood prosperity and safety. Long-term residents explained that the area had improved greatly in recent years:

> Sarah: We had a lot of undesirables around this area and of course, I think it's still got a bit of a stigma about it. It didn't have a good reputation because a lot of them were ex-prisoners, homeless. Yeah so it wasn't a good area. We were lucky because we're sort of up this end, it was more down that [name of streets] around that area that was bad.
>
> Interviewer: Do you feel like it's changed over time?
>
> Sarah: Oh, it's changed tremendously. They've all gone, there's still a few undesirable places as you would know, around. Here, I think, we're in a lovely little area.

Newer residents appeared to be proud to live in a prosperous and increasingly desirable neighbourhood:

> Tom: Yeah, it's [name of suburb] - a good area, a very expensive area …I remember you could buy a house here for seventy thousand, now it's more than five hundred and seventy, if you're lucky.

Indeed, all but one interviewee expressed contentment with where they were living. The alternative view was from Edith who never liked the area and never felt she fitted in. She stressed that having no choice about where she was housed and having raised six children and her grandson on her own, was difficult “with aches and anger”. In the following extract, the presence of Edith’s helpful, but non-intrusive neighbours, seemed to be important factors influencing her sense of not feeling excluded, despite her continuing dislike for the area.

> Interviewer: So you have been here a couple of years ?

Edith: Yeah, but it's home. Home was just up the hill.

Interviewer: Oh, so you know this area?

Edith: I reared my kids up the hill.

Interviewer: And you like it?

Edith: Not particularly. I didn't like this side of Melbourne when I came here. I was reared in [name of suburb], worked in [name of suburb], got married and lived in]name of suburb], and when I had nowhere to go they said, "That's where you are," and I cried for a week.

Interviewer: Oh, I'm sorry to hear that.

Edith: That's the 1960s. I came here and brought my kids because they said, "There you go, that's your house, and that's where you'll live."

Interviewer: Over time though, did things change for you?

Edith: No…, I never liked it any better.

Interviewer: And what about this particular spot? Do you like it here?

Edith: I don't care.

Interviewer: It doesn't bother you?

Edith: No, the boys [neighbours] look after me. They put my bin. The boys! That one's in a wheelchair full-time and that one's in a wheelchair part-time. They look after me, make sure my bin's out…And he comes past in the morning and I know he checks because he stops out the front, yeah, check.

Interviewer: To see if you're okay?

Edith: Yes, yes.

It was common for participants to not really know their neighbours. Many observed the social norm, or preference, to “keep to themselves”, as said by Andrew. Upon deeper analysis, the responses related to not knowing neighbours suggested that sense of neighbourhood was influenced by more important perceptions such as, feeling “safe”, being “quiet”, and having people around “just like me”. This was particularly evident for male participants, for example:

Interviewer:	Can you tell me something about your neighbours?
Andrew:	Well to be honest with you, I just say g'day, I don't talk to them much I just say g'day and that's all… So I more or less just keep to myself. I just see them out and I say "oh good morning" or "good afternoon". I'm very sociable.

For Catherine, the sense that there were other people from diverse cultural backgrounds residing near her was important for her sense of belonging (in the block of units). She explains:

Interviewer:	And do you like living here?
Catherine:	Yes. The big block.
Translator:	She's got good company and she's happy here.
Catherine:	Lot's of girls from different countries – fit in; like them
Interviewer:	Okay. You feel safe here?
Catherine:	Yeah
Interviewer:	So you feel like you belong here? You belong in this neighbourhood?
Translator:	She's not frightened and she's comfortable and yeah.

For the two females who owned their current home, after purchasing it from the ministry of housing (managed by the Victorian State Government), and who lived in the neighbourhood for almost all their life, the narratives about sense of neighbourhood differed. They reminisced favourably about their past close connections with their neighbours. In their opinion, “renters” and “neighbours moving on” were some reasons that prevented them from getting to know their new neighbours.

7.2.5 Theme 5: Sense of Home and Autonomy

From the discussion on living alone, the overall impression was that living alone was not synonymous with feeling excluded. When discussing what it is like to live by yourself, autonomy and independence were revealed as major priorities. For example, Tom reflected the sentiment of several participants in terms of the sense of home and autonomy:

Interviewer: And how has it been living by yourself?

Tom: It's all right, I don't mind it. As long as you can do things for yourself, you know?... I like it here. Nobody tell you, "eh you do that or you do that".

Holly expressed that one of the most satisfying things in her life was her ability to get out in the garden. This reflection suggests that self-determination plays an important role in improving quality of life.

Interviewer: Can you tell me one of the valuable or satisfying moments you've had recently.

Holly: Satisfying?... Oh golly, that's a bit hard that one. It's lately is it? Lately? It's probably being able to get out and do things that I like doing. I like to get into the garden and go out the back and clean up and stuff. Yeah, I think that'd be it.

Single older person public housing emerged as an important protective factor in the lack of identification of social exclusion. Chris, who became bankrupt in older age after a bad business decision, reflects on his strained relationship with his son, but gratitude for having a home.

Interviewer: And when you first moved in, how did you find it? What were your thoughts?

Chris: Lucky. It is a beautiful unit… Here I am, not in good terms with my son because I lost a lot of money. He said, "I was expecting some money from you passing".

Living alone was mostly regarded as an accepted, tolerable, and for some, a preferable experience. Men, more so than women, conveyed their gratitude for having a comfortable and secure home. The background context of prior experiences that related to previous transitionary or precarious housing was related to current feelings of satisfaction with their current dwelling. The sense of home intersected with sense of neighbourhood and life-course. It seemed that the historical context of their living situation was related to feeling lucky. The following interviews are representative of this sub-theme.

Interviewer: How did you end up living here?

Chris: I was in housing commission, floor 18.

Interviewer: Do you like this place do you like living here?

Chris: It's quieter here. It is very quiet. I am not in any trouble with nobody here. I like coming here to living. Next day I start putting in new tree. I have everything. I have an avocado, I eat everything in the backyard. Plum and I got peach. I have one here and one here. I making everything, myself.

Satisfaction with life was linked with a sense of home in the following interview with Andrew who had prior experience of transient and strained family relationships:

Interviewer: How did you come to be living here?

Andrew: I was living with me son years ago… But things don't work out when you're with a family. So any how, I had a friend and I stayed at her place for a few years and then she got a bit worried about the pension. So I said "Oh don't worry, I'll put in for a commission unit." So I done that, and of course she's passed away since then.

Interviewer: Can you tell me one of the most valuable or satisfying moments you've had recently?

Andrew: Well, I'll be honest with you, the unit…Having it all done up. That made my day, honestly. Well I'm proud of it here. I love this place. Its spotless. I always kept it clean anyway and the cleaner lady she comes and cleans the place. She doesn't have to work too hard, but I don't care a continental. I just pay the council once a month, I was happy. I bought a new TV last Christmas. I thought well, I've got a nice clean unit now, it's all painted inside and out. I thought well, I'll celebrate myself I'll buy myself a new TV.

The ability to afford the rent of public housing was an enabling factor in preventing a sense of social exclusion. Keith explains:

Keith : Yes , this place is pretty cheap like, everyone complains, if you go outside it could be double. I could never do that, that's because that's

what your pension is. It would take all your pension. I'm all right. A lot of people are really struggling, really struggling.

Drawing on personal experiences of living alone, many oldest old men and women recognised the importance of pets in alleviating a sense of exclusion and is highlighted in the following transcripts.

Interviewer: You've got your birds ?... What does [name of bird] like to do?

Andrew: He talks a little bit and [name of bird]... here is a great friend of mine has just come in to see me. Want to have a talk to her? Or a whistle? You're not gonna say nothing... Hey? I bought him after I moved in, because I thought well I'm on my own, I have to get something to occupy my mind. So I bought [name of bird]. He goes in my unit... Can I wish for anything better than that?

Another interviewee describes her relationship with her cat, which plays an important part in her perception of contentment:

Edith: Do you know why I sit here? Because in there somewhere is a little cat- and I had her two brothers, and a stray, and her last brother went out the backdoor, I let him out the backdoor in the morning, and the boys brought him round to the front door not 10 minutes later, dead.

Interviewer: Oh.

Edith: So she don't go out now, and that's what I live for. Poor little... That sounds- But I don't feel as though I'm wasting my life.

Interviewer: No.

Edith: There's a little cat needs me (laughter)

Interviewer: Of course. The cat is important.

Edith: She is important. To think that others have killed her brothers, that she's important and she knows. I don't know what upset her the last two nights. One when she was beside the bed and last night she was on the end of the bed, but she knows I'm there if she needs me.

Interviewer: Oh, that's nice. Yeah.

Edith: So every morning I get up and she comes out, and I say, "Good morning, darling."

Interviewer: Yeah. So you took them in out of pity.

Edith: That wasn't pity, that was because they needed me and I needed someone.

Interviewer: Yeah. Fair enough. There was a good relationship.

Edith: Yes. Well, we've been a good relationship.

7.2.6 Theme 6: Psychological Beliefs and Adaptations

In exploring the themes of neighbourhood exclusion, supportive relationships and lived experience of older age, another theme emerged - individual psychological responses. Interviewees reflected on their adaptations, expectations and attitudes to older age. Their narratives seemed to suggest that surviving to old age with all their “faculties” (both mental and physical) were important protective factors that influenced their lack of identification with social exclusion. Downwards comparisons (i.e. others are worse-off than themselves) were frequently attributed to feelings of their achievement:

Beatrice: I mean I go to the shopping centre sometimes and I see the poor ones there in wheelchairs, and I think I don't know why I'm whingeing, you know.

A cultural preference to remain living in their own home for as long as possible was emphasised as desirable, as explained by Sarah. This extract also underscores the value of carers in the prevention of moving to a nursing home, as also discussed in the supportive relationships theme.

Interviewer: What's important for you in your older age? What do you think is important?

Sarah: What's important, it's important for me to stay well enough to stay in my own home.

Interviewer: You don't like the idea of going somewhere else?

Sarah: No I don't. I think um - no.

Interviewer: Any reason why?

Sarah: Well I used to go down to the nursing home and visit a friend of mine down there. Unfortunately, now she's got dementia, and she doesn't really know us, so I don't go anymore. I think just to see them sitting around, it just doesn't, I don't know. I think it's very sad and I think it's better if you can stay in your own home and maintain yourself. I know there's going to go a time when I won't be able to stay here. I realise that.

The oldest old notion of feeling in control and rebelling against assumptions of frailty appeared to be fundamental to their sense of wellbeing. Sense of autonomy may also help explain why this sample of socioeconomically disadvantage oldest old - all of whom lived alone - felt sufficiently socially included. Often relatives, especially the interviewees children, were portrayed as being overly protective. The example below highlights this tension.

Beatrice: Yeah and then I have sneaked to [name of suburb].

Interviewer: You have sneaked!

Beatrice: I don't tell my son and I don't tell my nephew because they'll growl at me and say oh you shouldn't. But on a nice day I think no, I'm going to get the bus at the front, get out at the shop instead, have a little wander around, catch the bus home. And I feel good.

Interviewer: Great. To get out.

Beatrice: On my own!

Interviewer: Why is your son worried if you get on a bus?

Beatrice: He thinks I'm not capable. I'm not stupid. I pick my good days, and I manage.

Along with notions of autonomy and independence, these examples illustrate the need to consider normative expectations of ageing in the context of older age social exclusion. This point is illustrated by the following exchange:

Interviewer: Is there anything else you want to tell me about your life and living here by yourself?

Tom: No, no, it's just a normal old life living here.

7.3.7 Theme 7: Contributing to Society

The theme contributing to society describes the myriad of ways oldest old contribute to family, friends, neighbourhood and community. These contributions were often subtle. The analysis of the interview data revealed that the oldest old play a part in creating a broader culture of social inclusion. Males more so than females, contributed to neighbourhood cohesion with friendly gestures and providing practical assistance to neighbours.

Keith: I've got a neighbour who's not real educated she can't write and can't read, sometimes I go over and help her out with things. My neighbour you know, she buys a card and gets me to fill it out. I've got reasonable IQ, I wouldn't like to be like that you know.

And:

Chris: I try to help as much as I can. Some of them, they are in a wheelchair or they are not that active. I move a lot of things.

Females on the other hand were more likely than males, to discuss their provision of emotional support:

Beatrice: Well there's, all my mum and sister, they've all gone now and two of her sons and there's only one of her sons that's left and that's [name of nephew] but he's got schizophrenia, and he's in a home. He can come and go but he has to have these tablets, and I haven't seen him for [ages] but I ring him and every pension day I send him a little parcel.

And:

Interviewer: In thinking about that and other things, what would you say is most important for you in your older age? What's important for you?

Mary: Really nothing.

Interviewer: Nothing is important?

Mary: I've just got to hang on as long as I can for my kids.

Interviewer Yeah. To support them?

Mary: Well, to be there for any problem they might have that I can probably help them.

Themes of intergenerational solidarity and neighbourhood cohesion were evident throughout the participants' narratives. In many cases, the oldest old's contributions to society were linked with their wellbeing – and no doubt to the wellbeing of others.

7.3 Perceptions of Social Exclusion - "I'm Definitely Not Socially Excluded"

A single and direct question about perceptions of social exclusion was asked towards the end of the interviews. The literature review in Chapter 2 identified that researchers and politicians have struggled with a common and succinct definition of social exclusion (Van Regenmortel et al., 2016; Walsh et al., 2017). During the interviews, the esoteric nature of social exclusion presented a major challenge in conveying this concept to participants, including those from CALD backgrounds. I wanted to convey the point that social exclusion is concerned broadly with structural issues such as justice and discrimination – as well as individual-level feelings of social inclusion. To introduce the question, I originally explained:

Interviewer: As part of my work I've been reading about social exclusion. Social exclusion refers to feeling left out and social inclusion refers to feeling respected and able to participate in society. On a scale from social exclusion on one side, and social inclusion on the other, where would you put yourself?

This question seemed to be confusing to most interviewees, many were reluctant or unable to categorise themselves in terms of a scale of social exclusion. In the following instance, further prompting and the presence of a gatekeeper helped in comprehending the notion of social exclusion:

Interviewer:	I've been reading about social exclusion. Social exclusion refers to feeling left out, but social inclusion refers to feeling like you can participate in society. For example, getting help from services, having good relationships, and feeling respected. Where do you think you would fit, on one end- social exclusion, and the other end - social inclusion?
Ada:	Oh, oh, I don't know.
Gatekeeper:	I don't think she understands.
Interviewer:	Yeah, it's a tricky question. Do you ever feel left out in any way?
Ada:	No, not really. No. No, I don't think so.
Interviewer	Okay. No?
Ada:	No, I don't think I do, no. Do you, Liz?
Gatekeeper:	Oh, no, only your social activities. You'd like to go out every day, but that's not possible for anybody, really.
Ada:	That's right.

After undertaking the first few interviews, I made the following entry in my reflexive journal:

Reflective Journal Extract

Social Exclusion Question

17 April, 2019

> Didn't get my social exclusion question. Is the concept of society too broad? Is there too much information at once? I don't think the scale thing works. I feel like I am fishing for social exclusion evidence. Piloted with very social people who own their home – but interviewing with less socially confident and probably with people with lower socioeconomic position i.e. live in public housing. Conversations seem more stilted, and questions need more prompts. Lesson – keep it simple, one concept at a time. Wondering if social skills/understanding related to life-course disadvantage.

Subsequently, in response to my assumptions that interviewees did not understand my question, I amended the question into plainer language:

> Interviewer: I've read that as people become older, they become excluded or left out. Do you ever feel left out?

Even still, the above question was frequently met with disagreement and denial. Indeed, a recurrent and unifying theme emerged; interviewees did not articulate or describe feelings of exclusion. This was a surprising result and discordant with findings from the literature review. Participants disclosed socially unfavourable life experiences, hence their denial of any feelings of social exclusion was probably not a socially desirable response.

Because interviewees did not directly address the research question, I sought to infer the level of social exclusion from other broader discussions of barriers and enablers to social exclusion domains, including neighbourhood and relationships.

In discussing barriers and enablers to social exclusion, it appeared that oldest old were not socially included in the community (i.e. getting out and about in their community). Participation in the community appeared to be very narrow and most could not leave their house without assistance. News about the world was derived from listening to the 'wireless' (i.e. radio) and watching television. However, this did not necessarily equate with perceiving

themselves to be socially excluded in any explicit or definable way. Lost community connection was evident, but rarely lamented, and in some cases was a preference.

The following interview response highlights that participants' interpretation of social exclusion was relevant at the individual level, but not at the societal or community level, in that she described being socially included in her family life but did not talk more broadly about society. The denial of social exclusion in the following response is representative of all interviews.

Interviewer: As part of my research, it's said that as people become older, they become more excluded or left out from community and society. How do you feel about that?

Sarah: What do you mean by society?

Interviewer: I guess like the neighbourhood, your community.

Sarah: They might be, they're only left out because they probably can't interact with other people or they can't get around. No, I'm never excluded from anything, I don't think. Especially in my children's' lives, they always say "mum you've got to come. We're having so and so, you want" ... "oh no I don't think I'll come". "Oh mum, you know, I think you should come". That's not society, that's really home isn't it.

The manner of response suggested that social exclusion was not synonymous with the absence of supportive relationships. Many participants remarked matter-of-factually that they had no visitors. In the following quote, the response implies that phone contact with family assists them to distance themselves from feeling socially excluded.

Interviewer: As part of some of the reading that I'm doing, or the study, it says that as people become older they become excluded or left out. Do you ever feel that way? Do you feel left out?

Andrew: Well I don't get no visitors. That doesn't worry me. My daughter hasn't been well so she can't drive a car, she's had an operation, so she'll be a few more weeks. But I ring her, I've got a disability mobile phone

The following response also alludes to oldest old people's understanding of social exclusion being associated with good health, independence and family support.

Interviewer: As part of my work I've been reading about social exclusion. Social exclusion refers to feeling left out and social inclusion refers to feeling respected and able to participate in society. On a scale from social exclusion on one side, and social inclusion on the other, where would you put yourself?

Keith: Well medically I can do those things. I don't have anything. I've got asthma, I've got a few tablets for that and a puffer. I did have a heart attack at one time, but I've got my medication for that now.

Interviewer: Do you ever feel left out?

Keith: No, no, I could go to my family if I wanted to. I'm pretty independent.

Not all the oldest old in the sample had attentive or supportive family. A common narrative was one of estranged family ties and divorce. Those without family support related their perceptions of non-exclusion to their capacity to adapt and feelings of contentment with their current situation. This is demonstrated in the following interview with Edith, who claimed she was not socially excluded:

Interviewer: Do you ever feel like you're excluded or left out from things?

Edith: No, no.

Interviewer: No? So-

Edith: If I wanted to be included, I would be. I'm not a vegetable that sits here and does nothing. I like to see what goes on around in life.

Interviewer: Yeah. How do you do that? What do you do?

Edith: Well, I read, and I watch, and I look, and I see what's around even though I'm in here.

A common thread running through the conversations, was that being noticed, or having the capacity to be noticed (and missed or helped) was important in protecting against

exclusion. For example, further on in the interview with Edith, I noticed an emergency alarm bracelet around her wrist. The ability to be helped if needed, protected her from feeling excluded. Her feeling of security is also related to Keith's feeling of security with the presence of his disability phone.

Interviewer: …Edith what is that around your wrist?

Edith: I can't remember what it's called. I just press it and someone answers. It stops me from feeling isolated. I've accidentally knocked it, and a voice says "hello, are you all right?" That's when I know it is working (laughter).

Despite what appears to be an absence of visitors, family and close friends, the sentiment of not feeling socially excluded was also shared by other interviewees. The experience for example of going down to the shops and belonging to a social group was more important for Catherine than having no one to confide in. It should be noted that, unlike the majority of the oldest old in the sample, Catherine was able to get out of her house with-out assistance, and she alluded to feelings of pride in her ability to get out of the house (e.g. "me much stronger").

Translator: She doesn't feel excluded as in, she still gets out. She gets on the bus and goes to [name of shopping centre], and it'll take her half an hour or something to walk back. Just that she can't walk very far and she catches a cab home.

Catherine: Me much stronger!

Translator: She finds respect and people love her.

Catherine: Good friends in the club, me much happy – Catherine no come today - they notice me.

Interviewer: Oh good, so they worry about you if you're not there?

Translator: Even on the [name of group] which is an Australian group as she calls it, even they miss her, if she's not around they ask where she is.

Interviewer: …When you have something personal you want talk to, you've got good friends to talk to?

Catherine: Not much friends, not like me, no trust.

Translator: She doesn't really have any problems, I don't like getting too close to people because I'll say this and she'll tell so and so and she'll tell so and so and she'll tell so and so, and even I don't really say anything to my son.

This illustrates that the absence of close ties or close relationships needs to be understood in the broader context of someone's life. As the above quote demonstrates, aversion to gossip prevented close relationships. It is possible that priorities and preferences of relationships differ between people and is influenced by prior life experiences.

7.4 Chapter Summary

The oldest old interviewees expressed their pleasure and seemed to enjoy the opportunity to have their voice heard[22]. Analysis of the qualitative interviews suggested that the sample did not see themselves as socially excluded, contrary to empirical predictions. This was evident despite them embodying many at-risk indicators of vulnerability to social exclusion as identified by prior research. For example, no presence of close friends, not getting out of the house, having a disability, living alone, and living in public housing.

In addition to the themes explored in the quantitative analysis (i.e. perceived unsupportive relationships, perceived neighbourhood exclusion, and community disengagement) the oldest old narratives suggested further influences on the way oldest old relate to, cope with, and adapt to the realities of living alone in the community. These included physical and mental health, sense of home and autonomy, psychological beliefs and adaptations, and contributing to society. These factors created an intricate web across individual, neighbourhood and structural/macro levels and contributed to the study samples' lack of identification with social exclusion.

The next chapter summarises and integrates the main findings from both the quantitative and qualitative study and discusses these findings in the context of relevant

[22] Except for one interviewee who was more or less coerced by his daughter which raised an ethical dilemma (see section 8.8).

literature. Meta-inferences draw together the main threads of both studies and a revised conceptual framework of oldest old *social inclusion* is offered.

Chapter 8: Discussion and Conclusion

> We who are old know that age is more than a disability. It is an intense and varied experience, almost beyond our capacity at times, but something to be carried high. If it is a defeat it is also a victory, meaningful for the initiates of time, if not for those who have come less far. (Scott-Maxwell[23], 1968, p.5)

This thesis was motivated by the recognition that to comprehend the challenges of social exclusion among an ageing population we require the perspectives and experiences of older people themselves. Prior research on older age social exclusion has largely overlooked the importance of whether community dwelling adults aged in their eighties and nineties (oldest old), perceive themselves to be socially excluded. By placing the oldest old at the centre of the inquiry, this thesis aimed to address this research gap by gaining the perspectives from those living the experience.

The oldest old are identified as the fastest growing sector of the Australian population, and due to age associated losses (e.g. death of family and friends) and health decline, are generally assumed to be highly susceptible to social exclusion (Macleod et al., 2017). This, it is argued, impedes health and wellbeing (Sacker et al., 2017). My findings provide a greater understanding of who is at risk of social exclusion, and how lone dwelling public housing residents engage socially; and how society engages with this oldest old population. This new knowledge may present opportunities to improve not only the health and wellbeing of community dwelling oldest old, but also have societal and economic benefits.

This final chapter discusses the various research questions of the mixed-method study. Looking through the lens of critical gerontology, reflections and findings of the quantitative and qualitative study are interpreted and integrated. The chapter includes a reflection on the ethical dilemmas and strengths and limitations of the study. Finally, an overall conclusion is drawn from the emergent findings of the thesis.

[23] Florida Scott-Maxwell was close to 90 when she wrote *Measure of My Days*.

8.1 Quantitative Results - Who Among the Oldest Old is Most Vulnerable to Social Exclusion?

To date there has been several studies that have examined older age social exclusion from a quantitative perspective (Barnes, 2006; Key & Culliney, 2016; Kneale, 2012; Macleod et al., 2017). However, there appears to be scarce quantitative social exclusion research which specifically analyses the oldest old as a separate age group. Key & Culliney (2016) is one exception. As highlighted in the literature review (Chapter 2), age-related transitions are likely to impact on experiences of older age social exclusion. These transitions include health decline, death of partner and friends, and diminishing income following retirement (Weldrick & Grenier, 2018). From a research and policy perspective, quantitative analysis can help direct attention to those most likely to be at risk.

Previous studies have been influenced by Barnes' (2006) conceptual framework of social exclusion and capture older age social exclusion across multiple domains including: neighbourhood and community; services, amenities and mobility; material and financial resources; social relations; socio-cultural aspects of society; and civic participation. The social exclusion domains of relevance to the oldest old examined in this thesis included perceived unsupportive social relationships, perceived neighbourhood exclusion, community disengagement and life-course.

My quantitative study contributes to several gaps identified in the social exclusion literature. First, a call for research specifically among the very old (Davies et al., 2010); second, a need for disentangling risk factors from actual domains or measures of social exclusion (Walsh et al., 2017); third, a greater understanding of gender experiences (Van Regenmortel et al., 2016; Walsh et al., 2017); fourth, inclusion of neighbourhood-level influences on social exclusion (Van Regenmortel et al., 2016); and fifth, inclusion of subjective measures of social exclusion (Saunder, 2015). To my knowledge, this thesis is the first study to analyse the effect of individual- and neighbourhood-level characteristics on separate social exclusion domains among oldest old men and women.

The first quantitative research question sought to identify those most vulnerable to social exclusion. Some results were consistent with previous research, whereas some differed, although comparison and generalisability were hampered by inconsistent conceptualisation, measurement, and approaches to study design. I found that in some cases characteristics often assumed to be associated with vulnerability, were in fact protective, such as: living alone, lower income and living in disadvantaged neighbourhoods. Furthermore, associations

appeared to be sensitive to gender as well as the domain of social exclusion examined, confirming the worth of this analytical approach. Below, the findings of this quantitative study are discussed in relation to the literature.

8.1.1 Household Composition and Vulnerability to Social Exclusion

Household Composition and Perceived Unsupportive Relationships

Women who live alone, compared to women who live in a multi-person household, perceived higher levels of supportive relationships, whereas men who lived in multi-person households (compared to living alone), perceived higher levels of supportive relationships.

There are only a few previous studies, and no Australian based studies, of older adults that have focused on social support (a related but distinct concept of supportive relationships) and included household composition in multivariable analysis (Barnes, 2006; Key & Culliney, 2016; Kneale, 2012). Among these, the findings are mixed. Two studies found that living alone was significantly associated with exclusion from social support (Barnes, 2006; Kneale, 2012), while another, (Key & Culliney, 2016) found no association. None of these studies analysed the association between household composition for men and women separately. However, in considering gender as a confounder of social support and social exclusion, Barnes (2006) and Kneale (2012) found that men were more likely to be excluded from social support than women. This aligns in part with my findings which suggested that men who lived alone more keenly felt the absence of social support.

Household Composition and Community Disengagement

The results of the quantitative study showed that for women, living alone was associated with increased community participation; for men, there was no significant association. To date, no known quantitative study of older age social exclusion has found a similar association of living alone and greater community participation. It is possible that other factors, such as carer responsibility and living (dependently) with children, which were not accounted for in this study, may have influenced these results. For example, it may be that primary care givers have little time to engage in other activities. Living with family may also imply a greater level of care or dependency that restricts ability to engage in community participation.

Findings from the quantitative analysis advance knowledge of measurement of social exclusion among oldest old. Commonly used indicators such as living alone were not always found to be associated with higher levels of perceived social exclusion. My findings expose weaknesses in social exclusion measures used by other researchers, that equate ambiguous indicators such as living alone with social exclusion, as the evidence is weak to support these measures for older age groups. Given that living alone is common in older age, social exclusion measures consisting of this indicator may inflate the predictions of a high prevalence of social exclusion among oldest old.

8.1.2 Income and Vulnerability to Social Exclusion

Income and Perceived Neighbourhood Incohesion

The quantitative study found that older men with low income had higher levels of perceived neighbourhood cohesion. These results are contrary to what was expected, given previous literature which found that wealth may buffer against social exclusion (Barnes, 2006; Bradshaw, 2004). However, previous studies have used younger aged samples: for example, Barnes' study sample were aged 50 years and over (Barnes, 2006). In interpreting my surprising result, an important consideration is to recognise the homogeneity, or limited variation in income in the HILDA sample of people aged over 85, which may affect the results by showing little significance of income. For example, annual equivalised income among the sample was relatively low compared to the average adult Australian and there was little variation between women and men (women mean $29,988, SD 24.53, and men mean $34,578, SD 16.54). This may also explain why income was not a significant factor for the female sample.

8.1.3 Level of Education and Vulnerability to Social Exclusion

Education and Community Disengagement

There was some evidence that education influenced the level of perceived social exclusion. Women were more vulnerable to community disengagement if they had lower levels of education, which is consistent with other studies, although with younger aged samples, that include education in multilevel regression models (Jehoel-Gijsbers & Vrooman, 2008; Macleod et al., 2017; Miranti & Yu, 2015).

It should be noted that the HILDA survey items comprising the community disengagement index included patronage at theatre, arts galleries and educational lectures. It is possible that participation in these high-status cultural activities may not be particularly desirable, financially attainable, nor physically accessible among the oldest old, as well as those of low socioeconomic position.

8.1.4 Disability and Long-term Health Conditions and Vulnerability to Social Exclusion

Disability status was found to have very little impact on perceptions of social exclusion. Because disability is often included as an actual measure of social exclusion, there are a limited number of studies that have included disability in multivariable analysis among people aged over 85, making comparisons challenging. Looking at the domain of social support, Key (2016) found that disability was not significantly associated with social support among their sample of English oldest old, which aligns with the findings of this thesis research. The non-significant result could also reflect the homogeneity of the sample, as a high proportion reported a disability or long-term health condition (men 66%, women 83%). The Australian Institute of Health and Welfare reports a similar prevalence of disability of 80% among all Australians aged over 85 (Australian Institute of Health and Welfare, 2016b).

8.1.5 Neighbourhood Disadvantage and Vulnerability to Social Exclusion

Neighbourhood-level disadvantage is a possible determinant of neighbourhood exclusion (Barnes, 2006; Tomaszewski, 2013). My study found that, among the oldest old, level of neighbourhood disadvantage was associated with several domains of social exclusion, including unsupportive relationships, neighbourhood crime and neighbourhood incohesion. Notably, the association between neighbourhood disadvantage and neighbourhood incohesion was in the opposite direction than expected, which suggests that residing in a disadvantaged neighbourhood may be conducive to feelings of belonging and neighbourly trust. For the other domains of social exclusion, the association with neighbourhood disadvantage was in the expected direction. The specific findings are discussed under the relevant subheadings below.

Neighbourhood Disadvantage and Perceived Unsupportive Relationships

The quantitative analysis indicated that men living in the most disadvantaged neighbourhoods scored significantly higher on the unsupportive relationship scale than their counterparts living in the more advantaged neighbourhoods, suggesting heightened perceptions of unsupportive relationships for men who lived in disadvantaged neighbourhoods. This finding may reflect the greater chance of death (of friends, partner and family) and relationship breakdown among people residing in disadvantaged areas compared to more advantaged areas (Cornwell, 2015), hence possibly reducing the pool of companions with whom to form supportive relationships.

Neighbourhood Disadvantage and Perceived Neighbourhood Crime

For men, there was a difference in perceptions of neighbourhood crime that depended on where they lived. Men living in socio-economically disadvantaged neighbourhoods, compared to most advantaged neighbourhood, were more likely to perceive their neighbourhoods as being unsafe. This finding is consistent with other studies which suggest that people who live in disadvantaged neighbourhoods are more likely to be fearful and dislike their neighbourhood (Ross & Jang, 2000; Scharf et al., 2005b).

Neighbourhood Disadvantage and Neighbourhood Incohesion

Women from more socioeconomically advantaged neighbourhoods felt their neighbourhood was less cohesive, than those living in disadvantaged neighbourhoods. This finding does not concur with the majority of the literature reporting that neighbourhood cohesion is more common for older people living in more advantaged neighbourhoods (Bowling & Stafford, 2007; Scharf et al., 2002; Walker & Hiller, 2007) and that women from disadvantaged neighbourhoods are more likely to be worried about neighbourhood safety (Kavanagh et al., 2006; Walker & Hiller, 2007).

A possible explanation for this unexpected association may lie in the moderating effect of contextual influences such as informal ties with neighbours (Ross & Jang, 2000). Bowling & Stafford (2007) postulate: “It is possible that the different composition of social ties and contacts between socio-economic groups cancels out area-level differences” (p. 2545). This suggestion aligns with my qualitative study findings, in which public housing residents contributed to neighbourhood cohesion by being good neighbours.

The next section focuses on the health consequences of social exclusion in older age and discusses whether the health of the oldest old could be improved by knowing who is likely to derive the most benefit from reducing social exclusion.

8.2 Quantitative Results - The Moderating Effect of Social Exclusion on the Relationship Between Risk Factors and Health

Prior research has confirmed that individual level characteristics affect people's health. A social gradient can be identified in many countries (Draper et al., 2004; Marmot, 2004; Turrell et al., 2006): the higher an individual's SEP, the better his or her health. In addition, SEP is also likely to have cumulative effects (Dannefer, 2009) that become more pronounced with advancing age (Read et al., 2016). Policy responses, such as providing employment opportunities or education, may be beneficial strategies for younger people, but are less likely to be relevant and effective in reducing health inequalities among oldest old. Subsequently, preventing poor health in advanced age calls for a greater understanding of the underlying pathways that connect social stratification and health. In response, my second research question guiding the quantitative study, sought to explore whether social exclusion influenced the relationship between individual- and neighbourhood-level characteristics and health. As an under-researched area, two measures of self- rated health were used: self-rated general health and self-rated mental health.

The following section is structured around the quantitative study subquestions: (1) What is the association between individual- and neighbourhood-level characteristics and health? (2) What is the relationship between social exclusion and health? and (3) Does the association between individual- and neighbourhood-level characteristics and health differ by level of perceived social exclusion, for men and women?

8.2.1 Relationship Between Individual and Neighbourhood Characteristics and Health

Contrary to prior literature, the quantitative study revealed limited evidence that individual and neighbourhood characteristics were associated with self-reported health. For men, income and disability status were significantly associated with general health, and for women, living alone and disability were significantly associated with general health. For both men and women, disability was the only factor found to be significantly associated with mental health, suggesting that mental health was similar irrespective of household

composition, housing tenure, income level, country of birth, education, and whether one lived in an advantaged or disadvantaged neighbourhood.

Relationship Between Income and Health

For men, lower income (compared to being in the highest income category) was associated with better self-reported health. This differs from the literature which finds a social gradient, whereby higher income is protective of health (Draper et al., 2004; Marmot, 2004; Turrell et al., 2006). There was no statistically significant association between income and health for women. A possible explanation for this unexpected finding may be age-related. In advanced age there is likely to be a narrowing of inequalities in health due to survival bias - those with lower socioeconomic status die earlier (Turrell et al., 2007). There may also be a decreased salience of socioeconomic indicators impacting on perceptions of health among the oldest old (Grundy & Holt, 2001). A systematic review of the association between SEP and subjective health of older Europeans (aged 60+) found whilst there was evidence to support lower SEP with poorer subjective health, the associations tended to be weaker in the oldest age group – those aged 85 + (Read et al., 2016). This means that in advanced age, there may be a myriad of other factors apart from SEP that impact on how an older person views their health. My qualitative study pointed to the influence of life-course and life span factors in mediating the association between individual- and neighbourhood-level characteristics and health.

Household Composition and Health

For women (but not for men), there were differences between women grouped according to whether they lived alone or in a multi-person household and self-reported health status. Women who lived alone were more likely to report better general health. This finding may reflect that in advanced age, health influences whether people (women) are able to remain living alone.

Disability and Health

For both men and women having a long-term health condition or disability influenced general and mental health. Those reporting a disability or long-term health condition were

more likely to report worse health. The finding that disability or long term health conditions were associated with general and mental health has been found in other studies (Tomaszewski, 2013).

In summary, except for disability status, there appeared to be limited evidence to suggest that, among the oldest old, individual- and neighbourhood-level characteristics influenced subjective health. This study also asked whether there is an association between social exclusion and health. The next section explores this question in more detail.

8.2.2 Relationship Between Social Exclusion and Health

The literature on older age social exclusion highlights poorer health outcomes with increasing levels of social exclusion (Sacker et al., 2017). From a policy and research perspective, knowing what domains of social exclusion are associated with poor health, and if this differs by gender, can assist in targeting interventions. My analysis contributes to the emerging field of older age social exclusion research. To the best of my knowledge, no other published paper has investigated this.

The findings of my quantitative study concur with previous literature and showed a dose-response relationship between all social exclusion domains and self-reported health. This linear pattern suggest that social inclusion is an important protective factor for wellbeing despite the other finding of this thesis, namely, that there were little differences in health by socioeconomic indicators.

The domains of social exclusion which appeared to be protective of health differed for men and women. For men, there were statistically significant negative associations observed between perceived unsupportive relationships, neighbourhood crime and neighbourhood incohesion, and general health. Similarly, there was statistically significant negative associations observed between a perceived unsupportive relationships and mental health. For women who perceived unsupportive relationships, community disengagement and neighbourhood incohesion were associated with worse general health. My results suggest that social exclusion may be an underlying factor in poor health outcomes in older age. Thus, there is a health rationale for focused policy responses that consider the type of exclusion and gender experiences.

8.2.3 Moderating Effect of Social Exclusion on the Relationship Between Individual and Neighbourhood Characteristics and Health.

After finding that some individual- and neighbourhood-level characteristics were associated with health and social exclusion, and that social exclusion was associated with health, subsequent analysis was undertaken to investigate whether the relationship between individual and neighbourhood characteristics and health differed by level of social exclusion (i.e. effect modification). To date, the moderating effect of social exclusion on the relationship between individual and neighbourhood characteristics in older adults is under-researched, with two known studies investigating this association (Connolly et al., 2009; Wang et al., 2015). My study addressed this gap and in the next section discusses the findings of my effect modification analysis.

My quantitative study found little evidence of the moderating effect of social exclusion on the relationship between individual and neighbourhood characteristics and health. Statistically significant associations occurred more frequently for women (7 associations) compared to men (1 association). The association between disability and general health differed significantly by level of neighbourhood cohesion, which suggests that women with a disability may experience better general health when exposed to neighbourhoods with higher levels of cohesion. In my qualitative study, among women with a disability, getting along with neighbours and feeling a sense of satisfaction with where they lived, contributed to a sense of neighbourhood cohesion.

With regards to mental health, the most frequent social exclusion domain found to modify the relationship between individual- and neighbourhood-level risk factors and health was perceived unsupportive relationships. For men, living in multi-person households, lower levels of perceived unsupportive relationships was associated with better mental health.

For women who owned their home, and had completed a higher level of education, higher levels of unsupportive relationships were associated with poorer mental health. This finding may reflect previous research which suggests that perceived deficiencies in social relationships are more keenly perceived by older adults with higher socioeconomic position – especially if expectations are not being met (Biggs et al., 2003; Calasanti et al., 2001). The vast majority of women in my qualitative study (public housing residents with low levels of education) had only positive things to say about their social relationships, which would seem to also support the hypothesis that women of higher socioeconomic status may feel more disappointed with poor quality social relationships.

8.2.4 Counterintuitive Quantitative Findings and the Oldest Olds' Subjective Interpretation of the HILDA Survey Items

Contrary to expectations, in three instances higher levels of social exclusion were associated with better health. For example, among women born in a country where English was not the main language spoken, higher perceptions of neighbourhood exclusion (i.e. crime and noise) were positively associated with better mental health; and for women living in disadvantaged neighbourhoods, increasing neighbourhood noise was positively associated with general health.

Another unexpected finding was that in some instances a stronger modifying effect[24] of social exclusion was observed for those of higher SEP, compared to those of lower SEP. This suggests that reducing social exclusion may be more likely to improve health for people of higher SEP (compared to those of lower SEP).

As some of the quantitative findings appeared counterintuitive, a closer examination of the indicators that make up the variables for the neighbourhood exclusion scales were undertaken. It is possible that the survey questions were construed by participants in a favorable light, rather than undesirable as possibly intended by the HILDA survey designers. For example, the variable, "teenagers hanging around on the streets" (neighbourhood crime), might be a welcome sight for the oldest old. Similarly, the variable "noise from traffic" (neighbourhood noise), may imply more people in the local vicinity, which again may be welcomed. The subjective interpretations may introduce error by reducing the effect of the relationship between individual- and neighbourhood-level characteristics and social exclusion.

In interpreting the moderating effect of social exclusion on the relationship between individual and neighbourhood characteristics and health, it should be noted that the health measures used in the quantitative study are self-reported, and measure self-evaluation relative to other people (i.e. I am as healthy as anybody I know), as well as being indicative of personality (i.e. Do you feel full of life?). It has been suggested that these subjective dimensions of health are less affected by individual and neighbourhood characteristics, and more by factors such as personality (Read et al., 2016). It is plausible therefore that my unexpected and mixed findings may be attributed to measures used in this thesis - subjective

[24] Differences in fixed effects in nested models

wellbeing measures, as well as subjective interpretation of neighbourhood crime and neighbourhood noise. It is appropriate to question what error may be introduced and if this is likely to underestimate or overestimate the statistical significance of associations.

Notwithstanding the limitations in the indirect measures of social exclusion, my mixed results among oldest old from differing socioeconomic backgrounds and circumstances suggest it is difficult to identify a homogenous "at risk" social exclusion profile. Instead my results suggest that a focus on social exclusion is warranted across all sociodemographic strata.

8.3 Qualitative Results – Perceived Factors that Intensify or Protect Against Social Exclusion

Perceptions of social relationships, neighbourhood environment, socioeconomic disadvantage and living alone have been investigated in several qualitative studies among older people (Portacolone, 2011; Walker & Hiller, 2007). However, my qualitative study filled a research gap by investigating perceptions of social exclusion among community dwelling oldest old living alone in public housing. A key finding of my qualitative research was that perceived exclusion was mitigated by several interacting factors. In analysing the interview transcripts, seven themes emerged which seemed to have a protective effect on perceptions of social exclusion. These themes were sense of supportive relationships, sense of neighbourhood, physical and mental health, sense of home and autonomy, life-course experiences, psychological beliefs and adaptations, and contributing to society. Below I discuss these themes, highlighting consistencies and some nuanced differences compared with previous research.

8.3.1 Sense of Supportive Relationships Influences Perceptions of Social Exclusion

The qualitative narratives suggested that supportive relationships with family, neighbours, social groups, and community and health services, were important in mitigating against social exclusion. For this sample, close ties were valued, but in the absence of these ties, weak ties filled the void. A sense of support, even weak, seemed to give people the confidence that help would be provided if necessary and therefore minimised the risk of feeling socially excluded. For example, participants recollected friendly behaviour with acquaintances, which for them seemed to be just as important as having close relationships.

This finding concurs with previous research, showing amicable relationships are just as important as close family ties (Phillipson et al., 1998) and close friends. Subsequently, quantitative studies that equate absence of supportive relationships with social exclusion could overestimate the nature and extent of older age social exclusion.

Interview results identified both the protective and exacerbating impact of estranged relationships on feelings of social exclusion among the oldest old. Some participants become emotionally overwhelmed when reflecting on their relationships and there was overlap with past life-course experiences. There seemed to be complex and contradictory narrations of the effects of estranged social relationships. Shedding of toxic relationships was viewed as positive, yet at the same time participants expressed feelings of grief and exclusion.

The qualitative analysis found positive and negative accounts of family relationships and supports a subjective distinction between supportive (quality) over quantity of relationships. In particular, the qualitative study found that previous opportunities and personal hardship shape current and future willingness and behaviour regarding forming new relationships. The influence of life-course in shaping opportunities for social interaction have been found in other studies (Van Regenmortel et al., 2019; Ziegler, 2012).

Healthcare provided by community and healthcare organisations supported health and wellbeing and thus mitigated against feelings of social exclusion. Whilst almost all participants in the qualitative sample received formal care, the social aspect of care provision also seemed to have a positive effect on perceived level of social inclusion. Most interviewees gave high praise for the health professionals they encountered. These findings are consistent with an earlier study which showed that healthcare staff played an instrumental role in maintaining a sense of self and hence wellbeing, especially in the context of bodily decline (Lloyd et al., 2014). It should be noted, however, that the level of protection provided by formal care depends on continuity and depth of positive, respectful relationships (Grenier & Guberman, 2009).

8.3.2 Sense of Neighbourhood Influences Perceptions of Social Exclusion

Older people often perceive change in their neighbourhood somewhat negatively (Burns et al., 2012; Scharf et al., 2002) or in some cases it appears to make little difference (Prattley et al., 2020). Those I interviewed however were pleased with the changes they saw in their neighbourhood. The historical context of their neighbourhood, which was once associated with drunkards, prostitutes and “all those poor buggers released from the mental

asylum"[25], was an important relative marker. A few participants mentioned there are still areas where there are "undesirables" but this did not alter their overall positive impression of their neighbourhood – despite it being ranked among the 10% most disadvantaged neighbourhoods in Australia[26]. The surprising findings of a positive sense of neighbourhood despite what would appear to be on the surface an undesirable place to grow old, confirms early research of the importance of subjective (i.e. in the mind) contextual evaluations of neighbourhoods.

An early ecological study conducted by La Gory, Ward, & Sherman (1985) among people aged over 60 in New York found that for many older people, neighbourhood was defined in "the mind" rather than by geography (Lagory et al., 1985). Other researchers have also noted a disconnect between what could be considered a hazardous neighbourhood, and positive evaluations from their research participants, with contextual factors playing a key part in the difference (Russel et al. 1998).

It was apparent from the qualitative interviews that socio-cultural characteristics of the neighbourhood, such as history and reputation, were important factors not captured in the quantitative analysis. The interview findings related to neighbourhood perceptions may also play a part in explaining why in the quantitative study I found that neighbourhood cohesion for women was higher for those living in disadvantaged neighbourhoods.

Neighbourhood facilities emerged as important sources for social interaction and helped alleviate feelings of social exclusion. With the help from others who provided transport, interviewees were able to participate in community social groups, held in community venues such as the community health centre and the neighbourhood house. A Canadian study describes these types of community facilities as *third places* (home is the first place and work is the second place) that "operate as gateways to the outside world providing opportunities for direct as well as indirect contact with the neighbourhood and its residents" (Gardner, 2011, p. 267).

Community centres are particularly important for those of low socioeconomic position (van den Berg et al., 2015). Among my sample, community facilities, or third places, provided opportunities for social interaction and maintaining relationships. Thus,

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[25] Comment made by the chair of the local Public Housing Tenants Association.

[26] Ranking includes regional and remote areas. Within Melbourne it is in the top 3% of disadvantaged neighbourhoods

attending these places may be a better measure of community participation, compared with visitation to museums, art galleries, lectures and so forth, commonly used in quantitative measures of social exclusion, including in my quantitative study.

8.3.3 Physical and Mental Health Influences Perceptions of Social Exclusion

Good physical and mental health can help older people to maintain social relationships. The interviewees provided nuanced accounts that further add to the understanding of the interchange between health and social exclusion. It was found that in some instances it was the poor health of their friends (rather than their own health) that created barriers to social inclusion. Furthermore, poor health sometimes provided opportunities for valued social inclusion with family, caregivers and other residents.

The findings of the qualitative study are discordant with some previous research. For example, an American study of social isolation among older people (58-95 years old) living in a disadvantaged neighbourhood found that poor health contributed to feelings of social isolation. Furthermore, their study found that structural factors such as neighbourhood crime and insufficient social security, and unmeet desire for more social integration, contributed to feelings of social isolation (Portacolone et al., 2018). This differs to what was found in my study. The interviewees seemed content with their neighbourhood and limited social integration and were grateful for their Australian government benefits such as the age pension and public housing. Several of the sample were mindful that there were plenty of others “that had it much worse”. Difference in the age range, social security context, or study design (i.e. focus on factors contributing to social isolation compared to my focus on perceptions of social exclusion), may explain some of the differences to my qualitative study and further underscore the importance of contextual and structural/macro influences.

The qualitative findings contribute a greater understanding of how pet ownership can foster a sense of wellbeing and reduce the risk of feeling socially excluded. While not perhaps related to a direct measurement of participation in society, pets may protect against feeling excluded through psychological wellbeing pathways. Pets were much loved household companions among my sample of oldest old who lived by themselves. Caring for pets provided a sense of purpose and appeared to reduce the risk of feeling socially excluded. Despite there being much evidence to support the therapeutic value of caring for pets (Hughes et al., 2020) this aspect of pet ownership is largely missing from studies of older age social exclusion.

8.3.4 Sense of Home and Autonomy Influences Perceptions of Social Exclusion

The qualitative analysis provided evidence of community living as an important factor that influenced perceptions of social exclusion. In old age, remaining at home is commonly considered a sign of independence, and therefore a desirable accomplishment. Perceptions of independence may enhance quality of life by increasing a feeling of personal control (Plath, 2008; Portacolone, 2011) and foster a positive philosophical or spiritual perspective (Scharf et al., 2005a).

In the quantitative analysis, housing tenure was not associated with perceived social exclusion. However, the qualitative study revealed that housing, in the form of older person public housing, contributed to feelings of wellbeing, and mitigated feelings of social exclusion among participants. This was particularly evident for men with a history of precarious or transient housing. My finding concurs with an Australian study of older men (aged 65 to 75) which found that public housing provided a sense of personal safety and security (Morris, 2018). The importance of home cannot be underestimated: it meant that the oldest old's accommodation was guaranteed and affordable, and subsequently they had the capability to lead a dignified life. The participants viewed their neighbourhood as their immediate block of public housing. Their positive perception of public housing also intersects with their positive perceptions of the neighbourhood.

Social comparison was intertwined with sense of home and autonomy. Social comparison refers to the process in which people evaluate their own abilities, attitudes and accomplishments in relation to others (Festinger, 1954). In many instances, the oldest old compared their present autonomy favorably relative to others, which is indicative of downwards social comparison. For example, they were proud of their accomplishments in relation to others they knew who were not able to live independently. Negative perceptions of residential aged care influenced this feeling, with many of the participants speaking of their preference to remain living in their own home for as long as possible. Rejection of nursing homes appears to be a common theme influencing satisfaction in late life (Nosraty et al., 2015; Stones & Gullifer, 2016).

As a critical response to the presumed importance of independence in older age, some researchers have developed the notion of 'interdependency' referring to people being mutually reliant on each other (Plath, 2008; Portacolone, 2011). They note that independence is not always fair, especially for those with few resources:

> older people who are less privileged in terms of embodied capacities and resources are at greater risk of social exclusion amongst others, because they may refuse assistance due to a deeply ingrained desire to be independent. (Portacolone, 2011, p. 728)

There was some evidence from the qualitative study to support a cultural desire for independence, as hypothesised above. However, it also appeared that participants were able to adapt and accept assistance. Many credited their independence to the assistance provided from others. This has also been found in other studies (Wilken et al., 2002). Among the sample, the notion of independence seemed highly valued, and more important to life satisfaction than feelings of social inclusion. Thus, while not accounted for in the quantitative study, sense of autonomy and independence may have influenced the association between social exclusion and health.

8.3.5 Life-course Experiences and Psychological Beliefs and Adaptations Influence Perceptions of Social Exclusion

Life-course infers that prior experiences strongly affect present life (Dannefer & Settersten, 2010). This was evident in the qualitative study. Interviewees explained that their way of life, attitudes, and choices were heavily influenced by past events – for some reaching as far back as their childhood (e.g. childhood disability and family separation). The qualitative findings add to the evidence that expressions of grief and illness are long lasting, and not necessarily confined to recent events (Weldrick & Grenier, 2018). However, a point of difference between my findings and previous literature emerged. The interviewees seemed to infer that their life-course contributed to a sense of gratitude and satisfaction with life. Life-course *resilience* seemed to be reflected in their stories, more so than it contributed to social exclusion. Survivorship, and the related positive associations, may help explain why the oldest old did not recognise themselves as the stereotypical excluded older person.

The generation of oldest old who were interviewed for the qualitative study shared common experiences. They lived through the Great Depression in their younger years and have witnessed great technological and medical advances. They have experienced loss and gain. Essentially, they share the common attribute of survival. References to ‘successful survivors’ have been made by other researchers (Johnson et al., 1997). Although not directly

researching social exclusion, Johnson et al (1997) found that the oldest old psychologically process their longevity as “beating the odds” which contributes to their high self-rating of health and wellbeing.

In trying to explain why my sample did not perceive themselves to be socially excluded, several psychological theories were reviewed, including temporal comparison. Psychologists propose that temporal comparison - rating yourself against another time in your life - affects self-perceptions (Wilson & Ross, 2000). Provided that the temporal comparison is positive (comparing the current situation as more favourable than a previous situation), temporal comparison theory could help explain the protective effect of survival through previous hardships. This was a common attribute of the interviewees, and resonates with prior studies of disadvantage (Van Regenmortel et al., 2019) as well as with studies among the oldest old (Stewart et al., 2013). Having a sense of survivorship, evident in both downwards and temporal social comparison may help explain why the participants in my study did not identify with the negative image of old age social exclusion.

8.3.6 Contributing to Society Influence Perceptions of Social Exclusion

The findings of the qualitative study contribute to knowledge on how neighbourliness and fostering of intergenerational relationships supports social inclusion. In the qualitative study, broader intergenerational solidarity and neighbourhood cohesion were shown to be created and maintained by the oldest old. Neighbourliness contributed positively to the development of the oldest old’s community. Noting a social trend of neighbourly disconnection in Australia, Mackay (2018) says:

> most of us hope to live in a safe environment characterised by mutual trust and respect – and that is still the experience of millions of Australians. But such communities won’t survive unless we understand our role in maintaining them. (p. 167)

There were many accounts confirming the oldest old played an important role in maintaining neighbourly connections. The thematic analysis revealed that informal social relationships with neighbours mitigated the feeling of being excluded from the neighbourhood. It emerged that the interviewees embodied the value of neighbourliness (i.e. being a good neighbour). Neighbourliness has been found to strengthen individual inclusion

and neighbourhood cohesion (De Donder et al., 2013). By performing deeds such as checking in on neighbours, noticing if anyone needs any help, and assisting with everyday chores such as putting garbage bins out for collection, the interviewees demonstrated neighbourhood cohesion.

In tough times, such as when experiencing personal relationship difficulties, it was the oldest old whose advice was sought. Provision of emotional support to younger family members in particular was common and, in some instances, attributed to interviewees life satisfaction. Transmitting knowledge and experience to younger generations resonates with the concept of *generativity*, defined as: "a need to nurture and guide younger people and contribute to the next generation"[27]. Wanting to support younger generations was also found to be a significant source of life satisfaction in previous studies (Kok et al., 2018; Van Regenmortel et al., 2019).

With a focus on employment and civic participation (such as volunteering), neighbourliness and intergenerational contributions are not recognised in previous Australian social inclusion/exclusion policy (i.e. Department of Premier and Cabinet, 2012). A greater recognition of the unique ways the oldest old contribute to society may provide an opportunity for promoting oldest old health and wellbeing. I discuss the relevance of social exclusion policy for community dwelling oldest old in section 8.10.

8.4 Qualitative Results – Perceptions of Social Exclusion

A key finding of the qualitative study was that this sample of oldest old people generally did not perceive themselves to be socially excluded. There was no compelling evidence to suggest that they felt discriminated against or pushed aside from society. Instead, it emerged that the interviewees were satisfied with their life. They were proud and grateful that they could live alone in their home, they were content with their limited social life, and were not worried about community participation. These factors minimised or offset any propensity of the oldest old to see themselves as socially excluded.The qualitative research highlights the disconnect between negative societal stereotypes of advanced age and positive subjective evaluations of life among the oldest old from those living it. The findings point to

[27] Attributed to Erik Erikson; Generativity. Definition in *The Merriam-Webster.com Medical Dictionary*.

a critical reflection on the concept of social exclusion, and the researchers' role in the propagation of ageist assumptions - associating advanced age with social exclusion. My findings concur with the conclusion of a review of loneliness in older age: "The review notes the persistence of ageist attitudes, and underscores the importance of considering people's frame of reference and normative orientation in analyses of loneliness " (Dykstra, 2009, p. 91). This thesis found there is much to gain by including the voice and lived experience of oldest old from disadvantaged backgrounds.

8.5 Bringing the Qualitative and Quantitative Studies Together: A Greater Understanding of Social Exclusion Among the Oldest Old

The results of this mixed method study shed light on perceived levels of vulnerability to social exclusion, and health and societal outcomes. The parallel mixed method design intended for quantitative and qualitative data to be collected concurrently and analysed separately. The pillar of mixed methods is the integration or mixing of quantitative and qualitative data to generate summary findings based on all data beyond what either approach could alone. In mixed methods, meta-inferences refer to the syntheses of findings, typically made at the conclusion of the study (Fetters et al., 2013). Mixed methods research provides an opportunity to confirm or complement findings with other literature, as well as to identify contrasts or conflicts within the data (Bryman 2006). A precedent exists for supporting and encouraging mixed method studies for improving understanding of social exclusion among disadvantaged older people (Buffel et al., 2013; Finlay & Kobayashi, 2018; Scharf et al., 2002).

The mixed method findings challenge assumptions that living in disadvantaged neighbourhoods were synonymous with deprivation and exclusion. This is in accordance with some previous studies. For example, Scharf et al (2005), uncovered clear evidence that people living in disadvantaged neighbourhood did not see themselves as helpless or passive victims of disadvantage.

8.5.1 Overview of Mixed Method Findings

The integration of findings (meta-inferences) from the mixed method study adds breadth and depth to understanding of older age social exclusion and social inclusion and identified several areas for critical reflection. These were synthesized under the broad themes

of: 1) limited evidence of social exclusion among vulnerable oldest old; 2) gender differences; 3) challenging negative ageist assumptions of social exclusion; and 4) a revised conceptual framework of oldest old social inclusion. The revised conceptual framework emerges from the synthesis of all findings and progresses from being originally informed by the social exclusion literature to the application of lived experience narratives of *social inclusion*. These meta-inferences are discussed in turn below.

8.5.2 Limited Evidence of Social Exclusion Among "Vulnerable" Community Dwelling Oldest Old.

Despite living alone in disadvantaged neighbourhoods with limited family and social engagement, which according to the literature (Barnes, 2006; Heap & Fors, 2014; Key & Culliney, 2016; Kneale, 2012; Macleod et al., 2017), predisposes older people to greater risk of social exclusion, almost all interview participants did not feel socially excluded. In a similar way, there was limited and mixed evidence of an association between socioeconomic disadvantage and increased levels of social exclusion found in the quantitative study. Taken together, these findings suggest that oldest old from disadvantaged backgrounds are not necessarily at greater risk of social exclusion.

Synthesising the results from both studies, my results expose a discrepancy between what could be considered an *objective state* of vulnerability, based on previous literature on neighbourhood and individual socioeconomic disadvantage, and a *subjective evaluation* of social exclusion, as measured by survey data, and through interviews. The limited evidence of social exclusion in the qualitative study (and in the quantitative study) may be explained by the existence of protective factors, including positive psychological adaption and beliefs, life-course resilience, attachment to neighbourhood, and supportive social relationships.

The qualitative study adds the importance of life-course which was not accounted for in the quantitative study. In analysing the qualitative interviews, it became evident that the interviewees attributed their capacity to adapt to changes and positive perceptions of current social inclusion (and non-identification with social exclusion) to their experiences over the life-course. For many, life-long skills and attitudes were developed in response to hardship, such as living through a period of war, economic depression, and personal family breakdown. Their ability to manage social and financial constraints experienced through life, resonates with other findings of resilience among the oldest old (Browne-Yung et al., 2017; Kok et al., 2018). It has been argued that unfavourable life-course factors predispose older people to

various aspects of social exclusion (Grundy, 2016). My qualitative findings point to the possibility that amongst the oldest old, life-course is a pathway that protects against social exclusion.

Based on my findings, it is also possible that social exclusion is more keenly perceived by older adults with higher rather than lower socioeconomic position. For example, among those of higher socioeconomic position and status, there may be a wider gap in desired levels of social inclusion and their perceived reality. These thoughts are supported by other authors: “Those who have been disadvantaged in their earlier lives and have long faced relative powerlessness may actually deal with some aspects of growing old more easily as a result” (Calasanti et al., 2001, p. 192). This is in contrast to those from privileged social positions who may be: “most surprised by an age-based loss of power, even if economic resources soften the blow” (Biggs et al., 2003, p. 216).

A perceived loss of power, status and social relevance is also hypothesised as a contributing factor to the suicide rate for males over the age of 85 being the highest of any other age-group for men (Applewhite, 2019). These insights from the previous literature align with the quantitative results which suggests a moderating effect of social exclusion on health for those of higher social position (e.g. residing in advantaged neighbourhoods).

Contrary to expectations, the qualitative study found some evidence that suggests intergenerational socioeconomic disadvantage may be protective of social exclusion. It emerged from the qualitative study that family carers, all of whom lived in public housing (which may indicate intergenerational disadvantage), were integral for social relationships. Family carers, usually children, enabled their parents to remain living independently in the community – an attribute they all valued. It is likely that under differing circumstances, for example, if these children had high status employment, they would be less likely to provide this valued support. Some researchers suggest the upwards social mobility and material wealth characteristics of the post-industrial society have contributed to geographical fragmentation of the family (Buffel, 2015) and families with lower socioeconomic position tended to stay geographically close to one another, enabling them to care for their older relatives (Phillipson et al., 1998). The qualitative study demonstrated the possibility that intergenerational disadvantage may keep families close, strengthening family ties, and thus builds psychological wellbeing which may reduce perceptions of social exclusion among the oldest old.

Another contribution of this thesis is a greater understanding of the pathway between disability and social exclusion. Previous research has found that people with a disability and

poor health are at risk of social exclusion (Mick et al., 2018; Riyana & Peng, 2015), yet in the quantitative study I found little evidence that disability status impacted on social exclusion. Further, the qualitative study suggested that in some instances disability status was a protective factor in that it resulted in increased care and social support.

The limited and contradicting findings on how disability impacts on social exclusion found in this thesis may be explained by previous disability and frailty research (De Donder et al., 2019). For example, for decades researchers have been aware of a disability paradox, whereby people rate their health highly despite having a disability (Albrecht & Devlieger, 1999). In old age, it has been suggested that this paradox can be accounted for by various psychosocial processes of self-evaluation, in light of what they can reasonably expect (Henchoz et al., 2008). From the qualitative study, many oldest old participants implied that people their age would be dead, in a nursing home, or have Alzheimer's disease. Considering that this community dwelling sample rated their own health and wellbeing, and independence/autonomy as better than expected, it is plausible that this may help explain why there was no compelling evidence of social exclusion.

As with disability status, it is common for social exclusion research to include living alone as an indicator of social exclusion (Jose & Cherayi, 2017; Scutella, 2013). However, in the quantitative study I found that living alone could be protective against social exclusion for women. The qualitative study builds on the understanding that the experience of living alone can be associated with positive perceptions, such as independence and autonomy. Given the high proportion of widowhood in oldest old women especially, studies that position living alone as equivalent to, or a proxy measure of social exclusion may inflate prevalence. Evidence from other studies also reject a definitive association between living alone and social exclusion (Djundeva et al., 2018). As such, this thesis demonstrates that living alone cannot be assumed to increase vulnerability to social exclusion, further challenging the validity of living alone as a measure of social exclusion.

8.5.3 Gender Differences

There was evidence that women and men in the community perceive social exclusion in different ways and have divergent expectations of social inclusion. Gender differences were observed in the relationship between living alone and perceived unsupportive relationships. In the quantitative study, women who lived alone (compared to women who lived in a multi-person household) perceived higher levels of supportive relationships,

whereas men who lived in multi-person households (compared to living alone), perceived higher levels of supportive relationships. These findings supports other research that argues older men and women experience and perceive living alone differently (Smith et al., 2007; Walker & Hiller, 2007).

The qualitative study revealed some nuanced findings about the preferences and expectations for supportive social relationships. Among the sample, the majority of women were more comfortable with engaging in community groups (e.g. senior citizens and social support groups), whereas men preferred the presence of their family.

8.5.4 Challenging Negative and Ageist Discourse of Social Exclusion

Many scholars observe that social exclusion is a disputed term (Peace, 2001; Walsh et al., 2017; Warburton et al., 2013); however, there is a general understanding that social exclusion refers to processes relating to disadvantage and poverty, and to categories of excluded people and places. It is worth noting that the original intention of social exclusion policy was to provide social insurance to people not in the workforce, or not married to someone in the workforce (Silver, 2010). This deficit perspective of social exclusion presents those excluded as passive and disadvantaged, rather than as active contributors to society. Furthermore, previous definitions that conceptualise social exclusion as "separation from mainstream society" (Walsh et al., 2017) are morally problematic. Inherent in the concept of "mainstream society" is the normalisation of mainstream. Critics have questioned:

> who creates the rules, the parameters and the expectations of what a person must do… that would make it possible for them to be "included" in the social matrix? (Peace, 2001, p. 33)

Framed this way, social exclusion takes on a punitive tone, implying that excluded people should be accountable and conform to the standards of mainstream society. (Daly & Silver, 2008). Without questioning and challenging the above assumptions, social exclusion discourse may inherently strengthen negative ageist attitudes about the limited capacity of older people to engage with society.

By distracting attention from the general rise in inequality and social problems that affect all social classes, a limitation levelled at social exclusion is that the concept categorises

deviant groups of people and places. Researchers caution against a focus on "at risk" population groups. For example, Silver (1994) says:

> exclusion discourse may also ghettoize risk categories under a new label and publicise the more spectacular forms of cumulative disadvantage, distracting attention from the general rise in inequality, unemployment and family dissolution. (p.540)

A key finding of this thesis is that the concept of social exclusion is *relative*; it means different things to different people and varies across time and place. An implication is that it may be possible for people of all levels of the social hierarchy to feel vulnerable to exclusion, or to feel excluded from something. My research found that social exclusion may not be disproportionally experienced by the oldest old and categorising or assuming at-risk groups should be avoided.

Based on their age, the focus of this thesis could be assumed to be on those living in the fourth age. However, the imagery of the fourth age as a period of dependence (Baltes & Smith, 2003b) and lack of agency (Higgs & Gilleard, 2014), was at odds with the findings of this thesis. Instead it was common for the oldest old to perceive themselves as playing a role in fostering supportive relationships especially among their family, and neighbourhood cohesion. Gerontological researchers have observed that older adults are central to their community and fulfil important roles for social interaction (Warburton & McLaughlin, 2005; Wilken et al., 2002). These "little kindnesses" (Warburton & McLaughlin, 2005) are rarely acknowledged in social exclusion policy but are important to individual, family, and community functioning. These illuminating insights from the qualitative study challenge the assumption that the oldest old have entered the "metaphorical black hole"(Gilleard & Higgs, 2010) of advanced age and provide counter evidence of older people contributing to society, even when in a situation perceived as disadvantaged (living alone in public housing), which tempers negative assumptions of oldest old social exclusion.

The finding that the oldest old were not at great risk of social exclusion is discordant with previous studies that predict greater social exclusion, with advancing age.

8.6 Revision of Conceptual Framework of Social Exclusion Among Community Dwelling Oldest Old

Social exclusion amongst the oldest old and the role of individual, neighbourhood and contextual influences in shaping perceptions of social exclusion has received limited attention in the literature. With the aim of advancing conceptual understanding of older age social exclusion, my research explored how oldest old perceive social exclusion and the role of mediating factors that protect or intensify feelings of exclusion. In line with constructivist underpinnings, I start this section with a reflection on the challenges I faced in revising the conceptual framework and why I changed the underlying construct from social exclusion to *social inclusion*.

Extract from Reflective Journal

Wrestle with social exclusion and social inclusion

> From the outset, it was expected that the oldest old would feel socially excluded. But I didn't find convincing evidence to support this. In my quantitative study, vulnerable people weren't especially socially excluded, and my interviewees didn't describe anything that made me think they were either. There were no heart wrenching stories about feeling discriminated against, left out or pushed aside from society. I didn't hear people talk about their distress in not being able to access services or health care. My initial aim was to look at causes and consequences of social exclusion. However, stories about public housing and relationships were expressed as factors that didn't cause social exclusion, but rather protected them from it. And conceptually, how can there be consequences of social exclusion if no one was excluded? It seemed that the narratives more accurately reflected social inclusion. Many were involved and included in their families lives. There was also a strong sense of looking out for one another in their immediate neighbourhood. I wrestled with this for a while. I'd been championing the idea of social exclusion from the start– social exclusion aligned with my philosophy of social justice and human rights. Social inclusion seemed a weak individualistic concept in comparison. Critical gerontology came to the rescue. It reminded me to honour the voice of the research participants and it was ok for me to change my mind. So, I made the

> radical decision to change my conceptual core from social exclusion to social inclusion. Because essentially there were some participants who declared “I’m absolutely not socially excluded!”.

The initial conceptual framework (Figure 8.1) reflects preconceived ideas based on the literature. The framework is a straightforward cause and effect model with sociodemographic factors and life course factors influencing health outcomes. The amendments to the conceptual framework in Figure 8.2 are based on my research findings and are discussed in the subsequent section.

Figure 8.1 (reproduced from Figure 3.3**)**

Initial Conceptual Framework of Social Exclusion Among Community Dwelling Oldest Old

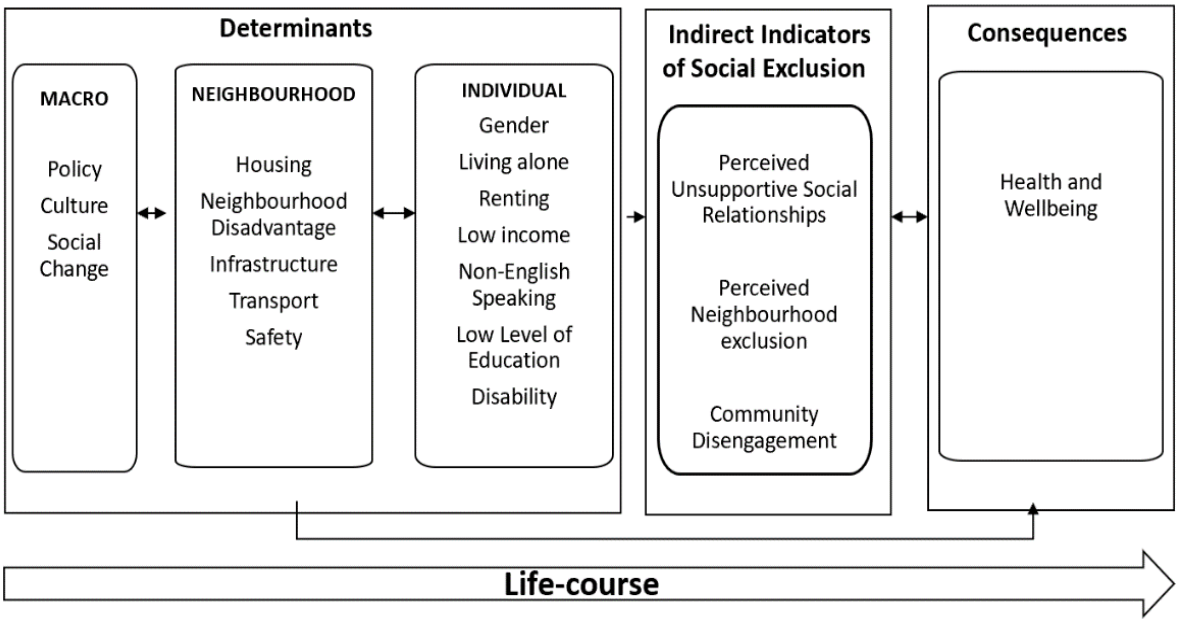
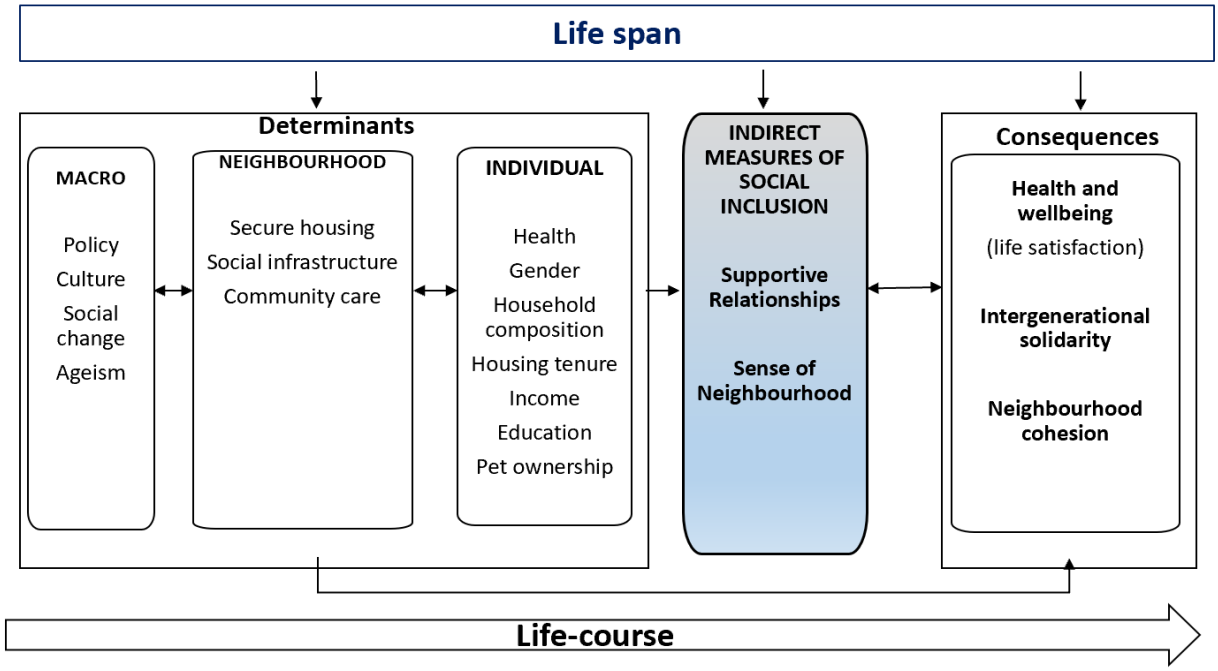


Figure 8.2

*Revised Conceptual Framework of Social Inclusion Among Community Dwelling Oldest Old***.**



Social Inclusion

The qualitative analysis highlighted that *social inclusion*, rather than social exclusion, needed to be a central concept in a revised conceptual framework. To reflect this change, the social exclusion box in the initial conceptual framework has been changed to social inclusion. A more complex and nuanced understanding based on the integration of mixed method findings, reflected a constructivist world view where determinants and consequences relating to social inclusion were multi-directional and multi-faceted. The multi-directional nature is illustrated in the revised framework by the arrows going in both directions. New learnings repositioned the lived experience of ageing from a deficit model to a positive model which included positive societal consequences of oldest old social inclusion. This is captured in the revised model, with social inclusion including components of supportive relationships and sense of neighbourhood.

The revised conceptual framework demonstrates that social exclusion is a multi-dimensional construct. My framework confirms similar forms of exclusion to those of previous frameworks, including domains of neighbourhood and supportive relationships (Levitas, 2007; Van Regenmortel et al., 2016). Notably, the original domain of community participation was omitted from my revised conceptual framework as community participation was not common (quantitative study), nor described (qualitative study). Instead, engagement in community life was captured in *sense of neighbourhood* including involvement in neighbourhood and *supportive relationships* such as with family, neighbours, health and community workers.

Life Span and Life-course

The modified conceptual framework considers two different perspectives of understanding very old age. The life span perspective seeks to describe discrete life stages whilst the life-course perspective is concerned with cumulative overlapping impacts. Although there are inherent tensions the revised conceptual model posits that exclusion can exist through age-based loss of authority and status – as well as social inequality over the life-course.

Life span has been added to the top of the framework, to reflect that very old age is unique compared with any other age. Life span perspectives reflect different meanings

attached to different stages of life, for example the oldest old. This view subscribes to the belief that human development is not completed during childhood or adulthood, but continues throughout life – to death – and involves lifelong adaptative processes (Baltes & Smith, 2003b). The very distinct challenges of advanced age led researchers to characterise this unique stage of psychological development (Brown & Lowis, 2003). Erikson (1998), wrote when she was 93 years of age:

> old age in one's eighties and nineties brings with it new demands, revaluations, and daily difficulties. These concerns can only be adequately discussed and confronted, by designing a new ninth stage to clarify the challenges. (p. 105)

The qualitative study added knowledge that a normative interpretation of social exclusion among adults may not be applicable to the oldest old. Subsequently, life span theory seemed particularly pertinent in understanding my findings and was added to the conceptual model. Life span theory explains how in advanced age there is a shift in perspective from a materialist and rational view of the world to a more cosmic or transcendent one. There was evidence from my qualitative study to suggest that the people aged in their 80 and 90s displayed this unique psycho-social characteristic. For example, they were able to balance loss and gain, and demonstrated coping and adapting skills that seemed to be a source of growth and strength (Brown & Lowis, 2003). The social construction of norms and ideals, and independence and social and temporal comparison in particular, shaped oldest old perceptions in a positive way. The lived experience of very old age (i.e. life span) is absent from prior conceptualisations of older age social exclusion. Furthermore, life span theory may help explain why my sample of oldest old did not view themselves as socially excluded or disadvantaged.

Life-course has been kept at the bottom of the conceptual framework because the influence of prior life experiences was found to be especially relevant to this cohort. The capacity for individuals to respond and adapt to adversity, was also reflected in historical and cultural resilience. The influence of life course as a protective factor in my revised framework departs from most of the published literature which conjecture that life course experiences of disadvantage intensifies and leads to exclusion (Backman & Nilsson, 2010; Dannefer & Settersten, 2010).

Determinants of Social Inclusion

The socio-ecological model remained relevant in the conceptualisation of the influence of macro, neighbourhood, and individual level determinants of health and wellbeing. However, some determinants were reworked. For example, under the heading of *macro* factors, "ageism" has been added. This reflects how ageism among researchers (including myself) and broader society, can influence oldest old lived experience of social inclusion. Under the heading *neighbourhood,* a clearer focus on secure housing (not just 'housing', as in the original framework), social infrastructure (health centres, facilitated social groups) and community care was included. These factors were highlighted in the qualitative study as important to enabling social inclusion. In neither the quantitative nor qualitative study was there compelling evidence to suggest living in deprived neighbourhoods increased vulnerability to social exclusion. Therefore, neighbourhood deprivation was omitted in the revised framework.

Several preconceived assumptions were challenged in reflecting and integrating the findings. Of note, were the initial assumptions of individual level determinants as risk factors. In the revised model under the heading *individual,* individual determinants have been amended to be more generic, because their impact is not always straightforward. For example, living alone became household composition and, disability became health status. Pets were also added. These amendments reflect the thesis findings that sometimes living alone, having a disability, and having pets aided perceptions on social inclusion.

Consequences of Social Inclusion

From the review of the literature, healthy ageing emerged as an important aspect stemming from older age social exclusion. Drawing on the thesis findings, a key contribution of my thesis is that consequences extend beyond healthy ageing and consider *intergenerational solidarity* and *neighbourhood cohesion,* hence these were added to the consequences box. These revisions bring attention to future opportunities and capabilities, contrary to a negative cumulative spiral of social exclusion and poor health. These positive factors have received little attention in previous frameworks of older age social exclusion, contributing to stagnation and possibly ageist conceptualisations of older age social exclusion.

The integration of my mixed method findings provide insight into the interrelationship between ageing and exclusion from participants' own perceptions and lived experience. The revised conceptual framework was underpinned by life course, life span, and

the socio-ecological model of health. The constructivist and critical gerontology foundations further assisted in developing new and deeper insights into the fluid and ambiguous nature of oldest old social inclusion. This framework could be used to invite discussion on the many factors that come into play in thinking about the opportunities and challenges of an ageing population. It should be noted however, this framework directed at conceptualising social inclusion is based on the people that were interviewed (and their particular circumstances and experiences). It is worth considering to what extent this framework is likely to apply to all people aged 80 and over. Notwithstanding this cautionary note, it is hoped that by example of this framework, future policy and practice are informed by the oldest old themselves instead of relying on assumptions which arguably serve to further entrench ageist stereotypes.

8.7 Strengths and Limitations of this Thesis Research

The following section discusses the strengths and limitations of the thesis and aims to facilitate critical commentaries about the scope and accuracy of the results and overall conclusions. As this thesis is underpinned by a constructivist and critical gerontology framework, I provide a transparent appraisal of my own research process, exposing failures and detailing new learnings.

8.7.1 Mixed Method Study

The mixed method design enabled an in-depth analysis of each separate study, as well as contributing to a greater understanding of oldest old social in/exclusion. The different perspectives revealed factors that weren't originally considered. For example, the integration of findings or meta-inferences refocuses attention away from the deficient model of social exclusion and presents the positive attributes of social inclusion. The synthesis of findings provides insight into the intertwining relationship between cultural, structural, individual, neighbourhood and life span determinants. This broader understanding of the complexities and inter-relationships would not have been obtainable if a singular quantitative or qualitative study had been conducted.

The design of this study was parallel mixed methods. As detailed in Chapter 3, mixed method studies are promoted in social exclusion research. A common approach in mixed method studies would be to use the same study population in both the quantitative and qualitative study (Creswell, 2018b). The approach however, taken in this thesis was to view

the quantitative and qualitative components as independent studies. This decision was based on the secondary data used for HILDA (where participants were de-identified), and countering limitations of other research in failing to recruit “excluded” or hard-to-reach people in social exclusion research.

8.7.2 Quantitative Study

Few studies have investigated the influence of individual- and neighbourhood-level characteristics on social exclusion among men and women separately in very old age (i.e. 85+). The multivariable analysis stratified by gender enabled this investigation. This is the first known study conducted in Australia that investigates the contribution of older age social exclusion on the relationships between individual- and neighbourhood-level characteristics and health.

Several limitations are noted. The quantitative analysis was cross-sectional, which did not allow temporal relationships to be examined and limited causal inferences to be made. Furthermore, the domains of social exclusion investigated were limited to those thought to be most relevant to oldest old and that could be explored in the quantitative secondary analysis. As the HILDA study and questions were not specifically designed to examine social exclusion the measures used could be considered ambiguous and open to misinterpretation by older persons. However, the creation of scales measuring aspects of social exclusion provides one possible way of using indicators or data available in HILDA. This approach adds several benefits for possible future research. First, because the scales are continuous, they allow relationships to be examined that are not impacted by arbitrary categorical cut-off scores. Second, each domain can be analysed separately enabling cross domain comparison. The consideration of other domains important to oldest old social exclusion, such as perceived exclusion from social rights (government pension, housing, and health care) and ageism could not be examined with the available data. Future research may benefit from analysing other factors recognised as contributing to older age social exclusion such as information technology, access to a car, rurality (Sacker et al., 2017) and genetics (Burholt, Winter, et al., 2017). Access to car and genetics were mentioned by some in the qualitative interviews but were not prominent themes.

A possible limitation is that the quantitative study findings may not be generalisable to other countries. There may be differences regarding social determinants of health and

inequality and social security. Notably it has been hypothesized that more recently developed western countries, - like Australia and Canada - have fewer class barriers and social inequality compared to longer established western cultures like the United States and the United Kingdom (Kendig et al., 2016). Cross national differences make it difficult to compare findings and warrant further Australian research.

Generalising the findings of this thesis beyond the age group studied should be treated with caution. The characteristics and cultural norms regarding very old age is likely to change, for example, future generations will have greater access to education, have different health needs, and expectations regarding care and involvement in society.

8.7.3 Qualitative Study

The qualitative study provides rare insights into perceptions of social exclusion among lone-dwelling oldest old from disadvantaged backgrounds. Failing to recruit 'hard to access' people is frequently cited as a major limitation in research with disadvantaged communities (Portacolone et al., 2018; Russell et al., 1998). Doorknocking of public housing units was a key strength in recruiting some socially unconnected tenants. Researchers should not overlook doorknocking as a possible recruitment method – especially if the aim is to recruit under-represented population groups.

For the qualitative study sample, face-to face methodology overcame barriers of poor literacy, poor hearing, vision and mobility, as well as scepticism. Strategies employed to overcome barriers of poor eyesight, hearing and literacy included short questions with prompts, clear annunciation and greater eye contact. I concur with other researchers that face-to face recruitment and interviewing (as opposed to written material or phone recruitment/interviews) is well suited for research with older participants (Wenger, 2002).

Most participants that I recruited via doorknocking did not belong to a social group. This indicates that usual method of collaborating with a relevant organisation may not help gain access to socially excluded oldest old. Another strategy for future research could be to partner with the local general practice and have them identify potential participants from their client records. It should be noted that this approach requires a high level of ethical clearance and collaboration which requires substantial resources and time.

Whilst doorknocking, some younger public housing tenants mentioned they often saw older people with their carers at the local shopping centre. Thus, shopping centres may be

another context in which to gain access to this group of participants. Another avenue to explore could be media or radio promotion. This approach would be well suited for a large-scale project across a range of neighbourhoods.

The qualitative study design may have introduced selection bias that should be acknowledged. Participant recruitment was limited to those deemed to be cognitively competent and living in the community (as opposed to residential aged care). The direct and indirect question about social exclusion may have introduced social desirability bias (Dury et al., 2018). The face-to-face interviews allowed me to take measures to probe and clarify participant responses as well as provide verbal support when they disclosed sensitive information. I discuss these issues in more detail in the following section.

Two-thirds of the 150 doors that I knocked on did open (but the majority were too young and hence out of scope). It is plausible that some eligible people (i.e. aged over 80) may have been home but were unable or unwilling to open the door. This may mean that the most vulnerable or socially reclusive participants were not included in the sample. Conversely it is plausible that a more socially active sample were excluded as they may have been out at the time of recruitment. Potentially other oldest old (who were not recruited), may have had different experiences and perceptions of social exclusion from those who were interviewed.

The purposive selection of participants from a particular neighbourhood in metropolitan Melbourne, Australia, may mean that generalisability of the findings to other locations is limited. The selection of this geographical area was influenced by my familiarity of the area and residents' eligibility to be part of the study. Further investigation, with greater geographic and individual sociodemographic variation, may reveal different perceptions and interpretations.

The next section provides my reflections on the ethical and practical learnings of conducting research with public housing tenants in their 80s and 90s living alone in a socioeconomically disadvantaged neighbourhood.

8.8 Reflective Practice

As this thesis was founded on a constructivist and critical gerontology research paradigm which acknowledges the influence of the researcher on the research investigation, I provide a reflection (reflexive account from my journal, see below) of how my social position and assumptions influenced my research. My reflections were structured around two reflexive approaches; (1) consideration of critical gerontology theory, which is concerned with knowledge of self in relation to power, and in particular consideration of insider and outsider influences on research; and (2) sharing the ethical and practical challenges and learnings in researching socioeconomically disadvantaged community dwelling oldest old.

8.8.1 Positionality Statement: Position as an Outsider

My social position is vastly different to oldest old participants, making me an "outsider". An *insider* on the other hand, would be someone who shares sociodemographic characteristics with study participants. As an outsider, there are advantages and limitations. For example, insiders are usually more attuned to hearing the unsaid, and probing for information others may miss. Conversely, being an outsider, particularly to disadvantaged groups, offers some advantages. Berger (2015) suggests this is: "Because the researcher is ignorant and the respondent is in the expert position, it is an empowering experience" (p. 227).

I came to believe that requesting to learn from the oldest old experts (as an outsider), was instrumental in successful recruitment. For example, the original recruitment message was changed from one of hoping to *better support* older people to one of hoping to *learn from* older people about their experiences. The re- emphasis of the nature of the study, away from *support* was advantageous in two ways. First, it minimised the anxiety that potential participants may have had around needing support. Initially some residents confused the intention of the research and made it clear they did not want to sign-up, or already had *My Aged Care*. Knowledge gained through my previous work with older adults, was that words such as "assessment" or "support needs" are closely associated with nursing home care and should be avoided. Second, positioning myself as a student (outsider) wanting to learn from older adults about their experiences, seemed to shift the power dynamics and a more casual conversation ensued.

The following is an extract from my journal. I reflect on my personal position and community development skills and how this may have influenced each interviewee's disclosure of personal information, and subsequently my interpretation of their stories.

Reflective Journal Extract

My Positionality and Impact on Research

June 2019

When listening back to recordings I was surprised by the amount of verbal support I had offered participants. This has heightened my realisation that both my personality (empathetic) as well as my previous work experience as an advocate for issues of social equity unconsciously led me to verbalise affirmative support. An example of this was when a participant exclaimed "this is stupid, oh that is such a stupid thing to think" and I replied, "no that's not stupid that's just your opinion". On another occasion, an interviewee announced, "I'm ignorant" and I replied, "I don't think so, I think you have some amazing experiences and have had to survive through a lot". This exchange of reassurance and support may have helped establish rapport. It potentially drew out more detailed and rich personal accounts of sometimes traumatic experiences. In these instances, I let them know I could see that they were upset and suggested we talk about something else. However, they really wanted to continue with their story (one was very insistent that I listen) and said it was helpful to "get it off their chest". I was surprised to learn that they had never talked about their traumatic experiences with anyone else.

Although I felt I was failing as an interviewer (but being great as a counsellor) because it was hard to get the interview back on topic, these accounts really helped to gain an understanding of relativity and perspective. It also provided insights on how past experiences continue to shape perceptions and experiences in the present and future.

8.8.2. Sharing the Ethical and Practical Challenges and Learnings in Researching Community Dwelling Oldest Old from Socioeconomically Disadvantaged Backgrounds

Conducting research involving human participants raises ethical and practical issues that need to be rigorously considered. Researching social exclusion of older adults aged over 80 in disadvantaged neighbourhoods presented further unique challenges. Three key areas were identified; 1) safety of the researcher in conducting fieldwork in disadvantaged neighbourhoods; 2) consent of participants with cognitive, functional or sensory impairment; and 3) recruitment of vulnerable "hard-to-reach" people. Each area is addressed under the relevant sub-heading.

Safety of the Researcher in Conducting Fieldwork in Disadvantaged Neighbourhood

My feelings of safety were enhanced when I doorknocked in locations where I personally knew someone. In other locations, I approached with greater caution and was cognisant of employing other safety mechanisms, such as positioning myself closest to the door, leaving the door open, and declining invitations to tour their house or garden[28] . Furthermore, my prior work experience supervising volunteers, including some with challenging behaviours, prepared me to recognise and mitigate any possible safety risk (i.e. inappropriate advances from males). I do not think I would have been as comfortable doorknocking had it not been for my knowledge of the area and employment history. As discussed in the earlier safety protocol section (see 6.5.3) the implementation of the 'buddy system' and the use of the local health centre as my base further aided my perception of safety.

Interviewee Consent and Impaired Decision-Making Capacity

The original plan, was that if a potential participant was confused, for example, having difficulty finding a word, not making sense when speaking, interrupting or ignoring me when they are speaking, or failing to respond to communication, I would politely not proceed with recruiting them in the research study. In practice however, the recruitment and

[28] Invitations to tour their house could also have been employed as delay tactics, hoping to encourage more conversation.

subsequent exclusion of participants with suspected cognitive impairment was not straight forward nor predictable. This was evident in two cases as discussed below.

In the first case, a potential participant was identified through doorknocking their neighbour. Upon introducing myself, the potential participant gripped my arm and ushered me inside their home. They were clearly distressed. A polite "refusal" in this instance I deemed inappropriate, as I considered it was my ethical duty to alleviate their distress. Instead, I spent some time with the person, reassured them and later made enquires at the local health centre. The person was known at the health centre, and a visit from a dementia support worker was arranged.

In the second case, it was not immediately obvious that the person may have had cognitive decline and after gaining consent I proceeded with audio recording the interview. The person was able to demonstrate good communication skills and answer in detail as to what they had been doing recently. Their "don't know" and "can't remember" seemed initially plausible. It wasn't until further probing, repetitive stories, concern for their missing sister[29] and aid of visual clues (calendar with marked off visits from nurse and locked medicine case) that I suspected the person was cognitively impaired. At that point, I ceased asking interview questions and engaged in conversation that was of more interest to the participant – the much-loved neighbourhood cat. I checked with staff at the local health centre and they confirmed that this person came to a dementia specific group, and in their opinion was well and safe. This interview was not transcribed nor included in the analysis due to the ethical concern of informed consent. As the person was able to communicate and express their wish to participate, the choice to exclude them was a difficult one, considering empirical evidence of the high proportion (i.e. one-third) of oldest old having some degree of cognitive impairment (Alzhiemer's Australia, 2011) and the known relationship between cognitive decline and social exclusion (Hellström et al., 2007; Kay et al., 2019). An important implication is that this may be a form of exclusion imbedded in the research practice.

It should be noted that the requirement of research ethical clearance (for informed consent) was to exclude cognitively impaired participants. This issue is debated by researchers. Some argue that for the cognitively impaired person the benefits of being included in research far outweighs the potential risk of participant discomfort, as dignity is

[29] Inaccuracies related to the older person not remembering whether a person is still alive is typical of someone with cognitive impairment. For more information see Wenger, 2002.

enhanced by their inclusion and diminished by their exclusion (Hellström et al., 2007). Frustrated that exclusion of people with dementia is still an issue, Brooke (2019) laments that researchers in the 21st century need to implement… "guidelines and models to include people with dementia in all health research" (p. 2). From a constructionist viewpoint there may be an argument for including cognitively impaired people's subjective reality. Core to critical gerontology is a need for greater social recognition of marginalised older people and for them to be seen beyond vulnerability and illness; especially those considered to be in the fourth age – or in other words the oldest old.

In acknowledgement of the differing ethical perspectives on inclusion/exclusion of cognitively impaired participants the two examples suggest that in practice it is not always clear-cut. In the first case the person did not appear to be interested in the research – but nevertheless was insistent that I come into their house and listen to them. In considering ethical practice (Guillemin & Gillam, 2004), I made the on-the-spot decision to mitigate harm by acting on the participants desire for support (i.e. sat with her inside her home) and not interviewing her (to minimise exploitation). In the second case the participant appeared to understand what the research was about and expressed their desire to participate

Taking a critical gerontology stance that cautions against binary distinctions such as 3rd and 4th age; old and young, these two examples could offer a rational for considering the nuance of inclusion of people with cognitive decline in research. Ethics protocols could be more flexible to tamper this binary approach.

How to Ensure Recruitment of "Excluded" People – Role of Gatekeepers

The initial intention was to interview participants privately. However, it soon became apparent that some participants required assurance from a trusted other. In this instance, trusted others, referred to as a *gatekeepers*, were the oldest old relative (child or grandchild), whose "role includes protecting the older adult from unnecessary, inappropriate, or unsafe intrusion by strangers" (Wilken et al., 2002, p. 76). It was necessary to explain to the gatekeepers about the relevance of the proposed research before I had any chance of gaining the agreement of potential participants (Holland, 2005). Given this situation, I decided to offer any potential interview to occur in the presence of the relative.

The gatekeeper usually excused themselves to another room or went outside. In one instance however, this was not the case. The relative sat closely and prompted their parent to provide further personal information. I had not anticipated this happening, as the usual

influence of gatekeepers is desirability bias, referring to saying things that are favourable (Dury et al., 2018) – not undesirability bias. And it raised an ethical issue. On the one hand, it assisted in providing life-course context, but on the other, the participant may not have necessarily wanted to share private information, or even be interviewed, but under the pressure from the gatekeeper who may have had some power over the individual, they did. I sensed some tension and purposely directed my focus back to the interviewee, changed the topic to the latest football results (a culturally acceptable topic in Melbourne, Australia), and concluded the interview. The decision to prematurely conclude this interview was made in response to the ethical issues of gatekeeper influence in production of knowledge and possible coercion or power imbalances – which are important considerations in critical gerontology. However, it should be noted that the imperative to find, interview and give voice to ‘hard to reach’ or ‘marginalised’ older people encouraged by critical gerontology tests these possible situations of coercion and the ethical right to refuse to participate (from the participants perspective) (Poland & Birt, 2018).

8.9 Recommendations for Further Research

Based on my research experience and knowledge gained from undertaking this thesis several directions for designing and conducting studies of social in/exclusion are proposed. The first relates to recruitment of oldest old. Recruitment of community dwelling people aged 85 and over was difficult, due to the scarce numbers. A reduction of the age range to 80 and over may garner more participants and is perhaps a reason why those aged over 80 are considered to be in the oldest old age category among some researchers and policy makers. Second, notwithstanding the ethical dilemma of informed consent, including people who may have cognitive decline would overcome the exclusion of their perspectives in research. Third, flexibility around the presence of gatekeepers such as family carers, should also be considered. In many instances I would not have been able to interview the oldest old if it had not been for convincing the gatekeeper first.

For future research a focus-group of study participants to further explore how older people may understand, experience and respond to social exclusion would be beneficial. A focus group discussion could guide what indicators to use in a quantitative analysis and be helpful in capturing constructs that appear relevant to oldest old. The challenge would be developing rapport to overcome scepticism and carefully consider and mitigate barriers to their participation.

The revised conceptual model posits that oldest old perceptions of social exclusion are moderated by life-course and psychological beliefs and adaptations (life span theory). From this research, the oldest old seem to manage losses (and other risk factors) yet reject social exclusion and experience life satisfaction. A greater exploration of this phenomenon is warranted.

It is commonly thought that oldest old of low socioeconomic position are vulnerable to social exclusion. The thesis' findings challenge this claim. Research is required to test if similar findings are observed with oldest old of higher socioeconomic position and extend to non-metropolitan settings, and residential facilities (nursing homes). The application of a critical gerontological lens was helpful in recognising the less obvious ways in which the oldest old contribute to society. Research that further challenges pessimistic stereotypes of ageing is warranted.

8.10 Implications of the Findings for Policy and Practice

> Social inclusion must come down to somewhere to live, something to do, someone to love. It's as simple—and as complicated—as that. [30] (Fraser 1999, in O'Donnell et al., 2018)

My findings resonate with the above quote and have implications for service provision and community planning in the context of Australia's and other countries increasing ageing population. The revised conceptual framework views social inclusion as determined by both structural/macro and psychological factors. A key recommendation is that policies will therefore require a multi-faceted approach, including prevention through removing barriers to inclusion - such as access to basic health, education, community care, housing and income security - and psychological interventions such as facilitation of social support. Importantly, these strategies are required across all sociodemographic groups and neighbourhoods.

This thesis proposes that previous social exclusion research may unintentionally reinforce negative ageist stereotypes. Similarly, social exclusion policies that promote normative parameters of social inclusion, like employment and volunteering, may result in unwanted and irrelevant programmes for oldest old people. In tandem with desired and relevant strategies, it is also worth considering gender differences in experiences and expectations of social inclusion, when designing and delivering programmes. This may involve considering the settings and types of programs offered.

8.10.1 Improving the Relevance of Social Exclusion Policy for Oldest Old

Social exclusion as a policy and research platform remains prominent in Europe (i.e. ROSENET social exclusion unit) and to a lesser degree in Australia. For example, the Victorian Government's Seniors Minister portfolio oversees the Seniors Participation Grants program (worth up to $700,000) to reduce the risk factors that lead to vulnerability, disadvantage, social isolation and loneliness among older Victorian Adults (Department of

[30] Definition provided by Charles Fraser, a participant in a project aimed at furthering EU policy on social exclusion.

Health and Human Services, 2019). Although a focus on older people is commendable, this program needs to be careful not to simply categorise older people in terms of their deficits without an appreciation of the subjective dimensions of vulnerability to social exclusion as this thesis highlights. Furthermore, my research findings support further advocacy for a structural/macro and multi-dimensional emphasis especially noting the importance of secure and affordable housing and health and social care provided in the community and in the home.

In Victoria, the Municipal Association of Victoria (MAV) support Local Councils to plan for *Positive Ageing*. Polices include Age-Friendly Cities and Communities, Healthy and Active Ageing, Elder Abuse Prevention, and Building Community Capacity around End of Life. These policies have relevance to addressing ageism and issue of marginalisation from mainstream institutions, services, and amenities by focusing on the built environment and the social environment.

The MAV promote inclusion of older people in council planning (Municipal Assoication of Victoria, 2020). Arguably, development of policies for older people, by younger people, is an opportunity for developing intergenerational relationships. However, as Westerhof, Dittmann-Kohli and Bode point out, younger professionals should not project their own meaning of ageing when developing ageing policies (Westerhof et al., 2003).

As this thesis argues, a key priority is to increase the representation of oldest old in research and policy development, so that policy concerning them can be informed by their own knowledge. One strategy may be to strengthen established older adult advisory groups (set up to inform councils on ageing related issues). However, the concerns of the advisory group need to be taken seriously by decision-makers. International evidence suggests that too often advice from such committees is ignored and the groups existence is merely a symbolic nod toward consultation (Menec et al., 2014). Clearly not everyone over the age of 85 may want to participate, but the opportunity to do so should be provided.

My thesis confirmed that good health was valued but was not the main goal of ageing and concurs with previous research that suggests that other outcomes such as psychological wellbeing or wellbeing of a loved one, may trump personal health goals (Carstensen et al., 2019). This nuanced finding differs from a healthy ageing framework that views health as the primary goal of ageing (World Health Organization, 2002). It has been argued that the perceived desire for people to distance themselves from this final stage of decline in advanced age, has led to practices aimed at resisting this stage of life, and contributed to the

popularity of healthy ageing policy that reinforces the concept of independence and able body and mind (Phillipson, 2013).

Because healthy ageing had little relevance over the lives of my participants, a human rights view of ageing may hold more promise in promoting wellbeing for community dwelling oldest old (e.g. proposed UN Convention on the Rights of Older Persons). However, this thesis also cautions against a policy focus on at risk population groups common in ageing policy. Perhaps a multi-dimensional approach to understanding social inclusion, that is consistent with a view of social justice across all sociodemographic strata, would see a health and wellbeing benefit. The UN Sustainable Development Goals (SDG) which cover key aspects of inclusion may have grater salience. Relevant to social inclusion, the SDGs highlight the need for promoting equality, reducing poverty, ensuring good health and wellbeing, reducing disadvantage and creating inclusive communities. Subsequently a policy focus on broader structural/macro responses to reduce inequality across all age strata and socioeconomic position is a key contention of this thesis.

8.10.2 Addressing Structural Determinants of Social In/Exclusion

The thesis findings articulate that perceptions of social exclusion may be offset through structural/macro prevention, such as through providing adequate and accessible health care in the community and in the home, pensions (welfare payments) and secure affordable housing. Provision of secure and affordable housing in the form of older person public housing was highly appreciated and as the interviews expressed were integral to their wellbeing. The broader Australian social policies have relevance to reducing social exclusion through addressing disadvantage.

From the interviews, the emergent themes identified that lone community dwelling residents managed their everyday lives with the assistance of family, carers and facilitated community social groups. Closure of community facilities might potentially contribute to isolation and loneliness of older adults. Commodification of services, due to austerity of funding, is leading some researchers to warn that poor neighbourhoods are most vulnerable to underfunding and closure of services (Phillipson, 2013). The thesis findings support further focus on social aspects and support services in policies on age friendly environments (Duppen et al., 2019), as well as ageing in place polices (Bear & Bloom, 2015).

It has been suggested that “housing the poor” has lost its political appeal (Lawton, 2000 in Scheidt et al. 2003), so researchers, community planners, and policy makers need to

emphasise the value of public housing (Scheidt & Norris-Baker, 2003). This thesis supports advocacy for public housing. Sense of home was found to be an integral factor in enhancing wellbeing and mitigating against social exclusion. The Victorian Government's priority of housing older adults at risk of homelessness is commendable but should be expanded to include all people at risk of homelessness. More public housing is needed, not only in Victoria but throughout Australia and internationally. Finland, France and Singapore, among others, have been identified as having innovative social housing systems (Lawson et al., 2018).

More might have been made of the extent to which the idea of social exclusion (SE) focused in particular (e.g. in New Labour social policy) on the issue of marginalisation from mainstream institutions (rather than disadvantage per.se). This might have relevance for some of the points made in the conclusion to the thesis, for example about the extent of ageism affecting people in late old age.

8.10.3 Addressing Psychosocial Determinants of Social In/exclusion

From a policy perspective, the findings of this thesis suggest that it is necessary to address not only macro and social determinants but also psychosocial determinants of social inclusion. Encouraging older people to engage in society (through community participation or civic activities) may not be wholly effective in relieving oldest old feelings of exclusion. Notwithstanding the recognised lack of social in/exclusion program evaluation (Poscia et al., 2018), telephone services such as those run by the voluntary sector (i.e. Red Cross), home visits, and grief counselling provided by community health centres or hospitals may be promising interventions.

Strategies for facilitating social interaction in community-based groups will need to be proactive and consider individual psychological processes. Fear of social rejection presented as a barrier to social inclusion. Interviewees disclosed strongly held beliefs that participation in social groups may cause embarrassment, hence they preferred to avoid or evade participation in seniors and community groups. The interviewees suggested a "welcomer" could alleviate social fears. In the recognition that a lonely person will behave in a self-protective and defensive fashion (Cacioppo & Cacioppo, 2014), strategies will need to be proactive to develop opportunities for people to meet. As suggested by other researchers, recommendations could involve social prescribing and outreach (Scharf et al., 2002), as well

as community workers facilitating connections with existing organisation in the neighbourhood (Kearns et al., 2015).

8.11 Study Conclusion

This thesis has demonstrated the benefits of exploring the concept of social exclusion from the perspective of community dwelling individuals aged 80 and older through a mixed method framework. The quantitative study provided insight into who is at greatest risk of social exclusion and if social exclusion was associated with poorer health. The quantitative study analysed a less researched aspect of individual and neighbourhood characteristics associated with multiple domains of social exclusion for men and women. The results suggested there was little evidence that low socioeconomic position intensified feelings of social exclusion and poor health. Gender and domain differences were observed which confirmed the strength of my analytical approach.

The parallel qualitative study added the lived experience and perceptions of social exclusion among a group commonly identified at being most at risk but under- researched; public housing tenants who live alone. Divergent to expectations, the oldest old sample appeared to not see themselves as socially excluded. Analysis of their interviews revealed that perceived exclusion was likely to be balanced by individual psychological adaptations and beliefs, and cultural influences such as feeling successful and grateful in living independently in the community. Furthermore, the qualitative findings add to the evidence that supportive relationships are contextual, and in some cases not pivotal to a sense of wellbeing. In the absence of close friends or family, neighbours and pets fostered a sense of social inclusion.

In conducting research among community dwelling oldest old, I incorporated new learnings. It became clear that a recruitment message of me wanting to ‘learn’, rather than, wanting to ‘support’ older people, had greater rapport with potential interviewees. Face-to face recruitment and interviewing, as well as gatekeeper (who were often carers) involvement, were integral to successful participation.

A contribution of my thesis lies in my proposed conceptual framework of oldest old *social inclusion*. It demonstrates the relationship between ageing, social in/exclusion and health and wellbeing in a new context: from the perspectives of oldest old and in particular, thirteen public housing residents who live alone in a disadvantaged neighbourhood. The

veracity of my conceptual framework is based upon the use of a mixed methods approach which was underpinned by life-course, life span and socio-ecological model of health. Constructivist and critical gerontology foundations further assisted in critically reflecting on my research which helped develop new and deeper insights into oldest old social exclusion.

The revised conceptual framework explained how macro (structural), neighbourhood and individual level factors singularly or in combination were mediated by life-course resilience and life span. This determined perceptions of exclusion for the sample of community dwelling oldest old across multiple domains of social exclusion. Neighbourhood inclusion and supportive relationships stood out as the most relevant.

Recognising that very old age is a distinct time of life (i.e. life span theory) enabled a more meaningful way to conceptualise oldest old social inclusion. This aspect illustrated that consequences can extend beyond health to include positive contributions from the oldest old to family and community, a concept not previously examined. The revised framework can prompt policy initiatives and renew discourse of social exclusion and ageing in ways that challenge existing assumptions.

In integrating the mixed method findings, I confirmed that social exclusion is a subjective process. This raised the possibility that different people will be affected by different aspect of exclusionary processes; in some cases, it will act as a protective factor and in other cases it will exacerbate vulnerability to social exclusion. Therefore, I contend it may not be possible to identify a homogenous profile of “at risk” demographics or localities. The thesis findings support a public health response to social exclusion that includes prevention addressing structural inequalities over the life-course, as well as individual intervention such facilitation of social support needs across all sociodemographic strata and age groups.

Due to their age, the focus of my thesis could be thought of as those living in the fourth age. However, the stereotypical imagery of frailty, dependence and lack of agency was not fully supported by the findings of this thesis. The illuminating insights challenge the negative assumption that the oldest old are victims of social exclusion and provide counter evidence of the oldest old contributing to society, playing a role in fostering supportive relationships especially among their family, and neighbourhood cohesion. A reflection on the notion of social exclusion, suggests that the emphasis on categorising those most at risk, may contribute to cultural imagery of old age as a time of exclusion, decline and helplessness. The oldest old in my study did not see themselves in this light.

Afterword

> Humans are born to one of the longest periods of dependency of any species and are dependent on conspecifics across the life span to survive and prosper. Perhaps not surprisingly, humans do not fare well, either, whether they are confined to solitary living or they simply perceive that they live in relative isolation. (Cacioppo & Cacioppo, 2014, p. 5)

Upon my first reading of the above quote, my interpretation was that as a society we need to take notice of older people and make sure they are not isolated or excluded. Over the course of my PhD – and especially in the qualitative interviews - I found that it was in fact the oldest old who were those our society depended on. The oldest old facilitated intergenerational relationships and humanised neighbourhoods.

It hadn't occurred to me that perhaps researchers were peddling a view of social exclusion to which my sample of oldest old reject. I am not suggesting that policy can ignore older age social exclusion; but I do wonder if the deficit narrative of cumulative disadvantage and the slippery slope of social exclusion contribute subconsciously to ageist stereotypes, and shadow other stories of survivorship and stewardship over families and communities. No doubt there remains much more to be known.

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Appendices

Appendix A
Ethics Approval

ACU
AUSTRALIAN CATHOLIC UNIVERSITY

Human Research Ethics Committee

Ethics Review Exemption – Access to Restricted Release Data

Principal Investigator/Supervisor:	Dr Tom Barnes
Co-Investigator(s):	
Student Researcher:	Naomi Paine (Doctoral Student)
Project title:	Social Exclusion among socio-economically disadvantaged community dwelling oldest-old (adults aged 85 years and older) who live alone
Project approval period:	04/06/2018 - 31/12/2018
Human Research Ethics Committee (HREC) Register Number:	2017-258N

The ACU HREC has reviewed your application for access to the Restricted Release data (previously unconfidentialised) has been reviewed by the Australian Catholic University's Human Research Ethics Committee.

HREC notes that the project will be using previously collected Restricted Release data which can be exempt from review and that the Australian Government, Department of Social Services will provide access to the Restricted Release data.

Researchers are also responsible for ensuring that they adhere to the requirements of the *National Statement on Ethical Conduct in Human Research,* the *Australian Code for the Responsible Conduct of Research* and the University's *Code of Conduct*.

Any queries relating to this application should be directed to the Manager, Research Ethics and Integrity (resethics.manager@acu.edu.au).

Kind regards,

[redacted]

29/01/2019
Kylie Pashley
Senior Research Ethics Officer
On behalf of the ACU HREC Chair, Associate Professor Michael Baker
Research Ethics and Integrity | Office of the Deputy Vice-Chancellor (Research)
Australian Catholic University
T: +61 2 9739 2646
E: Res.Ethics@acu.edu.au
W: ACU Research Ethics and Integrity

Human Research Ethics Committee

Project Approval Letter

Principal Investigator/Supervisor:	Dr Tom Barnes
Co-Investigator(s):	Dr Melanie Lowe, Dr Jerome Rachele, Prof. Gavin Turrell
Student Researcher:	Naomi Paine (Doctoral student)
Project title:	Social exclusion among the oldest old: causes and consequences
Project approval period:	18/01/2019 to 31/01/2020
Human Research Ethics Committee (HREC) Register Number:	2018-280H

This is to certify that the above application has been reviewed by the Australian Catholic University Human Research Ethics Committee (ACU HREC). The application has been approved for the period given above.

Researchers are responsible for ensuring that all conditions of approval are adhered to and that approval for modifications to the protocol are approved prior to implementation. In addition, the ACU HREC must be notified of any reportable matters including, but not limited to, incidents, complaints and unexpected issues.

Researchers are also responsible for ensuring that they adhere to the requirements of the *National Statement on Ethical Conduct in Human Research,* the *Australian Code for the Responsible Conduct of Research* and the University's *Code of Conduct*.

Any queries relating to this application should be directed to the Manager, Research Ethics and Integrity (resethics.manager@acu.edu.au).

Kind regards,

[redacted]

29/01/2019

Kylie Pashley
Senior Research Ethics Officer
On behalf of the ACU HREC Chair, Associate Professor Michael Baker

Research Ethics and Integrity | Office of the Deputy Vice-Chancellor (Research)
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Appendix B
HILDA SURVEY 2016

HILDA LIVING IN AUSTRALIA

Roy Morgan Research
Freecall: 1800 656 670
Email: hilda@roymorgan.com

Household ID | Person No. | First name of respondent:

IN-CONFIDENCE

We appreciate and thank you for the information you have already given our interviewer. This form contains some additional questions that you might find easier to answer by yourself.

All the information you give us is completely confidential. Only the survey team will have access to this form. Everyone in this team has signed a deed of confidentiality and is required to observe privacy laws when handling your information.

Your full name and address will never be linked with any of the information you provide.

Complete and Return for your chance to WIN 1 of 8 $500 gift cards!

Don't forget, pick up date and time is _____

How to fill in this form

In answering these questions, please be as honest and accurate as possible.

- Use only blue or black ink.
  Put an **X** inside the box provided.
  (Do not mark any areas outside the box.)
  For example:

  Right: ☒ Wrong: ⊖ ⊘ ☒ ● ☑

- **If you make a mistake:**
  Simply colour in the whole box and mark the correct one as shown.
  For example: ☐ ■ ☒ ☐

If more than one answer is allowed, this will be specified under the question.

When completed, please seal this form in the envelope provided.

R08923 - W16M1 16 v1 1 SCQ Serial No.

PART A: GENERAL HEALTH AND WELL-BEING (SF-36 Health Survey)

This first set of questions seeks your views about your health, how you feel and how well you are able to do your usual activities.

Please take the time to read and answer each question carefully by crossing the box corresponding to your response. If you are unsure about how to answer a question, please give the best answer you can.

A1 In general, would you say your health is:

(Cross ☒ ONE box)

☐ 1 Excellent	☐ 2 Very good	☐ 3 Good	☐ 4 Fair	☐ 5 Poor

A2 Compared to one year ago, how would you rate your health in general now?

(Cross ☒ ONE box)

- ☐ 1 Much better now than a year ago
- ☐ 2 Somewhat better now than a year ago
- ☐ 3 About the same as one year ago
- ☐ 4 Somewhat worse now than one year ago
- ☐ 5 Much worse now than one year ago

A3 The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

(Cross ☒ ONE box on EACH line)

	ACTIVITIES	Yes, limited a lot	Yes, limited a little	No, not limited at all
a	Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports	☐ 1	☐ 2	☐ 3
b	Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling or playing golf	☐ 1	☐ 2	☐ 3
c	Lifting or carrying groceries	☐ 1	☐ 2	☐ 3
d	Climbing several flights of stairs	☐ 1	☐ 2	☐ 3
e	Climbing one flight of stairs	☐ 1	☐ 2	☐ 3
f	Bending, kneeling, or stooping	☐ 1	☐ 2	☐ 3
g	Walking more than one kilometre	☐ 1	☐ 2	☐ 3
h	Walking half a kilometre	☐ 1	☐ 2	☐ 3
i	Walking 100 metres	☐ 1	☐ 2	☐ 3
j	Bathing or dressing yourself	☐ 1	☐ 2	☐ 3

R08923 - W16M1 2

A4 During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

(Cross ☒ ONE box on EACH line)

		YES	NO
a	Cut down the amount of time you spent on work or other activities	☐	☐
b	Accomplished less than you would like	☐	☐
c	Were limited in the kind of work or other activities	☐	☐
d	Had difficulty performing the work or other activities (for example, it took extra effort)	☐	☐

A5 During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

(Cross ☒ ONE box on EACH line)

		YES	NO
a	Cut down the amount of time you spent on work or other activities	☐	☐
b	Accomplished less than you would like	☐	☐
c	Didn't do work or other activities as carefully as usual	☐	☐

A6 During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbours, or groups?

(Cross ☒ ONE box)

☐ 1 Not at all	☐ 2 Slightly	☐ 3 Moderately	☐ 4 Quite a bit	☐ 5 Extremely

A7 How much bodily pain have you had during the past 4 weeks?

(Cross ☒ ONE box)

☐ 1 No bodily pain	☐ 2 Very mild	☐ 3 Mild	☐ 4 Moderate	☐ 5 Severe	☐ 6 Very Severe

A8 During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

(Cross ☒ ONE box)

☐ 1 Not at all	☐ 2 Slightly	☐ 3 Moderately	☐ 4 Quite a bit	☐ 5 Extremely

A9 These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks:

(Cross ☒ ONE box on EACH line)

		All of the time	Most of the time	A good bit of the time	Some of the time	A little of the time	None of the time
a	Did you feel full of life?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
b	Have you been a nervous person?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
c	Have you felt so down in the dumps that nothing could cheer you up?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
d	Have you felt calm and peaceful?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
e	Did you have a lot of energy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
f	Have you felt down?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
g	Did you feel worn out?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
h	Have you been a happy person?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6
i	Did you feel tired?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6

A10 During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting friends, relatives, etc)?

(Cross ☒ ONE box)

- ☐ 1 All of the time
- ☐ 2 Most of the time
- ☐ 3 Some of the time
- ☐ 4 A little of the time
- ☐ 5 None of the time

A11 How TRUE or FALSE is each of the following statements for you?

(Cross ☒ ONE box on EACH line)

		Definitely True	Mostly True	Don't know	Mostly False	Definitely False
a	I seem to get sick a little easier than other people	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b	I am as healthy as anybody I know	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c	I expect my health to get worse	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
d	My health is excellent	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

PART B: YOU, YOUR LIFESTYLE AND YOUR LIVING SITUATION

B1 In general, how often do you participate in moderate or intensive physical activity for at least 30 minutes?

Moderate level physical activity will cause a slight increase in breathing and heart rate, such as brisk walking. *(Cross ☒ ONE box)*

- ☐ Not at all
- ☐ Less than once a week
- ☐ 1 to 2 times a week
- ☐ 3 times a week
- ☐ More than 3 times a week (but not every day)
- ☐ Every day

B2 Do you smoke cigarettes or any other tobacco products? *(Cross ☒ ONE box)*

- ☐ No, I have never smoked ➡ GO TO B4
- ☐ No, I no longer smoke ➡ GO TO B4
- ☐ Yes, I smoke daily ➡ GO TO B3
- ☐ Yes, I smoke at least weekly (but not daily) ➡ GO TO B3
- ☐ Yes, I smoke less often than weekly ➡ GO TO B3

B3 How many cigarettes do you usually smoke each week?

Please convert cigar/pipe/loose tobacco to a number of cigarettes: ☐☐☐ *per week*

B4 Do you drink alcohol? *(Cross ☒ ONE box)*

- ☐ No, I have never drunk alcohol ➡ GO TO B6
- ☐ No, I no longer drink alcohol ➡ GO TO B6
- ☐ Yes, I drink alcohol every day
- ☐ Yes, I drink alcohol 5 or 6 days per week
- ☐ Yes, I drink alcohol 3 or 4 days per week
- ☐ Yes, I drink alcohol 1 or 2 days per week
- ☐ Yes, I drink alcohol 2 or 3 days per month
- ☐ Yes, but only rarely

B5 On a day that you have an alcoholic drink, how many standard drinks do you usually have?

A standard drink is a small glass of wine, a 285 ml glass of regular beer, a nip of spirits, or a mixed drink. *(Cross ☒ ONE box)*

- ☐ 13 or more standard drinks
- ☐ 11 to 12 standard drinks
- ☐ 9 to 10 standard drinks
- ☐ 7 to 8 standard drinks
- ☐ 5 to 6 standard drinks
- ☐ 3 to 4 standard drinks
- ☐ 1 to 2 standard drinks

B6 How tall are you (without shoes)?

You only need to provide an answer in either centimeters (cms) or in feet / inches.

☐☐☐ *cms*

OR

☐ *feet* ☐☐ *inches*

(Note: There are 12 inches in a foot)

B7 What is your current weight?

You only need to provide an answer in either kilograms (kgs) or in stones / pounds.

☐☐☐ *kgs*

OR

☐☐ *stones* ☐☐☐ *pounds*

(Note: There are 14 pounds in a stone)

B8 Are you currently an active member of a sporting, hobby or community-based club or association? *(Cross ☒ ONE box)*

- ☐ Yes
- ☐ No

S/No. ☐☐☐☐☐☐☐☐

B9 How often do you feel rushed or pressed for time? *(Cross ☒ ONE box)*

- ☐ Almost always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

B10 How often do you feel you have spare time that you don't know what to do with? *(Cross ☒ ONE box)*

- ☐ Almost always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

B11 Now think about the local area in which you live. How strong is your preference to continue living in this area? *(Cross ☒ ONE box)*

- ☐ Strong preference to stay
- ☐ Moderate preference to stay
- ☐ Unsure / No strong preference to stay or leave
- ☐ Moderate preference to leave
- ☐ Strong preference to leave

B12 How common are the following things in your local neighbourhood? *(Cross ☒ ONE box on EACH line)*

		Never happens	Very rare	Not common	Fairly common	Very common	Don't know
a	Neighbours helping each other out?	☐1	☐2	☐3	☐4	☐5	▭
b	Neighbours doing things together?	☐1	☐2	☐3	☐4	☐5	▭
c	Loud traffic noise?	☐1	☐2	☐3	☐4	☐5	▭
d	Noise from airplanes, trains or industry?	☐1	☐2	☐3	☐4	☐5	▭
e	Homes and gardens in bad condition?	☐1	☐2	☐3	☐4	☐5	▭
f	Rubbish and litter lying around?	☐1	☐2	☐3	☐4	☐5	▭
g	Teenagers hanging around on the streets?	☐1	☐2	☐3	☐4	☐5	▭
h	People being hostile and aggressive?	☐1	☐2	☐3	☐4	☐5	▭
i	Vandalism and deliberate damage to property?	☐1	☐2	☐3	☐4	☐5	▭
j	Burglary and theft?	☐1	☐2	☐3	☐4	☐5	▭

B13 Now some questions about family life.
Please indicate, by crossing one box on each line, how satisfied or dissatisfied you currently are with each of the following relationships. The more satisfied you are, the higher the number of the box you should cross. The less satisfied you are, the lower the number of the box you should cross.

If the question does not apply to you, cross [X] the "Does not apply" category.

	How satisfied are you with:	Completely dissatisfied 0 1 2 3 4 5 6 7 8 9 10 Completely satisfied	Does not apply
a	your relationship with your partner?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
b	your relationship with your children?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
c	your partner's relationship with your children?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
d	your relationship with your stepchildren?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
e	how well the children in the household get along with each other?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
f	your relationship with your parents?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
g	your relationship with your step-parents?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
h	your relationship with your (most recent) former spouse or partner?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐

B14 And how satisfied are you with the following aspects of family life?
Again, please indicate, by crossing one box on each line, how satisfied or dissatisfied you currently are.

If the question does not apply to you, cross [X] the "Does not apply" category.

	How satisfied are you with:	Completely dissatisfied 0 1 2 3 4 5 6 7 8 9 10 Completely satisfied	Does not apply
a	the way childcare tasks are divided between you and your partner?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	☐
b	the way household tasks are divided between you and your partner?	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	

B15 Which of the following categories best describes how you think of yourself?

(Cross [X] ONE box)

- ☐ HeteroSexual or Straight
- ☐ Gay or Lesbian
- ☐ Bisexual
- ☐ Other
- ☐ UnSure/Don't know
- ☐ Prefer not to say

B16 Are you married or living with someone in a long-term relationship?

(Cross [X] ONE box)

- ☐ Yes ➡ **PLEASE COMPLETE THE NEXT QUESTION, B17**
- ☐ No ➡ **Go to B18 ON PAGE 9**

B17 The next few questions are about your relationship with your spouse or partner.

(Please cross [X] ONE box for EACH statement)

a	How good is your relationship compared to most?	Poor	☐1	☐2	☐3	☐4	☐5 Excellent
b	How often do you wish you had not married/got into this relationship?	Never	☐1	☐2	☐3	☐4	☐5 Very often
c	To what extent has your relationship met your original expectations?	Hardly at all	☐1	☐2	☐3	☐4	☐5 Completely
d	How much do you love your spouse/partner?	Not much	☐1	☐2	☐3	☐4	☐5 Very, very much
e	How many problems are there in your relationship?	Not many	☐1	☐2	☐3	☐4	☐5 Very many
f	How well does your spouse/partner meet your needs?	Poor	☐1	☐2	☐3	☐4	☐5 Excellent

B18 Do you think you do your fair share around the house?

(Cross ☒ ONE box)

- ☐ I do much more than my fair share
- ☐ I do a bit more than my fair share
- ☐ I do my fair share
- ☐ I do a bit less than my fair share
- ☐ I do much less than my fair share

Go to B19 ➡

B19 In general, about how often do you get together socially with friends or relatives not living with you?

(Cross ☒ ONE box)

- ☐ Every day
- ☐ Several times a week
- ☐ About once a week
- ☐ 2 or 3 times a month
- ☐ About once a month
- ☐ Once or twice every 3 months
- ☐ Less often than once every 3 months

B20 The following statements have been used by many people to describe how much support they get from other people. How much do you agree or disagree with each? The more you agree, the higher the number of the box you should cross. The more you disagree, the lower the number of the box you should cross.

(Please cross ☒ ONE box for EACH statement)

		Strongly disagree 1	2	3	4	5	6	Strongly agree 7
a	People don't come to visit me as often as I would like	☐	☐	☐	☐	☐	☐	☐
b	I often need help from other people but can't get it	☐	☐	☐	☐	☐	☐	☐
c	I seem to have a lot of friends	☐	☐	☐	☐	☐	☐	☐
d	I don't have anyone that I can confide in	☐	☐	☐	☐	☐	☐	☐
e	I have no one to lean on in times of trouble	☐	☐	☐	☐	☐	☐	☐
f	There is someone who can always cheer me up when I'm down	☐	☐	☐	☐	☐	☐	☐
g	I often feel very lonely	☐	☐	☐	☐	☐	☐	☐
h	I enjoy the time I spend with the people who are important to me	☐	☐	☐	☐	☐	☐	☐
i	When something's on my mind, just talking with the people I know can make me feel better	☐	☐	☐	☐	☐	☐	☐
j	When I need someone to help me out, I can usually find someone	☐	☐	☐	☐	☐	☐	☐

S/No. ☐

B21 The following statements are about attitudes to life in general. Please indicate, by crossing one box on each line, how strongly you agree or disagree that each statement describes you personally.

(Please cross ☒ ONE box for EACH statement)

		Strongly disagree 1	2	3	4	5	6	Strongly agree 7
a	I only focus on the short term	☐	☐	☐	☐	☐	☐	☐
b	I do things without giving them much thought	☐	☐	☐	☐	☐	☐	☐
c	I always look out for opportunities for improving my situation	☐	☐	☐	☐	☐	☐	☐
d	I tend to live for today and let tomorrow take care of itself	☐	☐	☐	☐	☐	☐	☐
e	I am impulsive	☐	☐	☐	☐	☐	☐	☐
f	I have many aspirations	☐	☐	☐	☐	☐	☐	☐
g	The future will take care of itself	☐	☐	☐	☐	☐	☐	☐
h	I say things before I have thought them through	☐	☐	☐	☐	☐	☐	☐
i	I always work hard to be among the best at what I do	☐	☐	☐	☐	☐	☐	☐

B22 Thinking about the past 12 months, how often did you do the following activities?

(Cross ☒ ONE box on EACH line)

		Every day or most days 1	Several times a week 2	About once a week 3	2 or 3 times a month 4	About once a month 5	Less than once a month 6	Not at all 7
a	Watch television programs or movies	☐	☐	☐	☐	☐	☐	☐
b	Read books	☐	☐	☐	☐	☐	☐	☐
c	Read news or magazine articles	☐	☐	☐	☐	☐	☐	☐
d	Do puzzles (like crosswords or Sudoku) or play word games (such as Scrabble)	☐	☐	☐	☐	☐	☐	☐
e	Play other games, such as board games, card games or computer games	☐	☐	☐	☐	☐	☐	☐
f	Write (e.g., reports, letters, stories or journal entries)	☐	☐	☐	☐	☐	☐	☐
g	Attend educational lectures or courses	☐	☐	☐	☐	☐	☐	☐
h	Arts or crafts or other artistic activities (e.g., playing musical instruments)	☐	☐	☐	☐	☐	☐	☐
i	Go to museums or art galleries	☐	☐	☐	☐	☐	☐	☐
j	Go to the movies, concerts, the theatre or other performing arts events	☐	☐	☐	☐	☐	☐	☐

B23 We now would like you to think about major events that have happened in your life over the past 12 months.

For each statement cross either the YES box or the NO box to indicate whether each event happened during the past 12 months. If you answer "YES", then also cross one box to indicate how long ago the event happened or started.

	Did any of these happen to you in the past 12 months?	YES	NO	If "YES" indicate how many months ago it happened			
				0 to 3 months ago	4 to 6 months ago	7 to 9 months ago	10 to 12 months ago
a	Got married	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
b	Separated from spouse or long-term partner	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
c	Got back together with spouse or long-term partner after a separation	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
d	Pregnancy / pregnancy of partner	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
e	Partner or I gave birth to, or adopted, a new child	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
f	Serious personal injury or illness to self	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
g	Serious personal injury or illness to a close relative / family member	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
h	Death of spouse or child	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
i	Death of other close relative / family member (e.g., parent or sibling)	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
j	Death of a close friend	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
k	Victim of physical violence (e.g., assault)	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
l	Victim of a property crime (e.g., theft, housebreaking)	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
m	Detained in a jail / correctional facility	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
n	Close family member detained in a jail / correctional facility	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
o	Retired from the workforce	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
p	Fired or made redundant by an employer	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
q	Changed jobs (i.e., employers)	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
r	Promoted at work	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
s	Major improvement in financial situation (e.g., won lottery, received an inheritance)	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
t	Major worsening in financial situation (e.g., went bankrupt)	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
u	Changed residence	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12
v	A weather-related disaster (e.g., flood, bushfire, cyclone) damaged or destroyed your home	☐	☐	☐ 0–3	☐ 4–6	☐ 7–9	☐ 10–12

B24 How much time would you spend on each of the following activities in a typical week?

IMPORTANT: • *Please do not count any activity twice* • *If you do not do an activity, write "0" in the hours box*

		Hours per week	Minutes (if applicable)
a	Paid employment	☐☐☐	☐☐
b	Travelling to and from a place of paid employment	☐☐☐	☐☐
c	Household errands, such as shopping, banking, paying bills, and keeping financial records (but do not include driving children to school and to other activities)	☐☐☐	☐☐
d	Housework, such as preparing meals, washing dishes, cleaning house, washing clothes, ironing and sewing	☐☐☐	☐☐
e	Outdoor tasks, including home maintenance (repairs, improvements, painting etc.), car maintenance or repairs and gardening	☐☐☐	☐☐
f	Playing with your children, helping them with personal care, teaching, coaching or actively supervising them, or getting them to child care, school and other activities	☐☐☐	☐☐
g	Looking after other people's children (aged under 12 years) on a regular, unpaid basis	☐☐☐	☐☐
h	Volunteer or charity work (for example, canteen work at the local school, unpaid work for a community club or organisation)	☐☐☐	☐☐
i	Caring for a disabled spouse or disabled adult relative, or caring for elderly parents or parents-in-law	☐☐☐	☐☐
	TOTAL: *This cannot exceed 168 hours and typically will not be greater than 120. If it is, please re-think your answers.*	☐☐☐	*Add total hours (whole hours only)*

PART C: PERSONAL AND HOUSEHOLD FINANCES

C1 Given your current needs and financial responsibilities, would you say that you and your family are ...

(Cross ☒ ONE box)

- ☐ Prosperous
- ☐ Very comfortable
- ☐ Reasonably comfortable
- ☐ Just getting along
- ☐ Poor
- ☐ Very poor

C2 Since January 2016 did any of the following happen to you because of a shortage of money?

(Cross ☒ ONE box on EACH line)

		YES	NO
a	Could not pay electricity, gas or telephone bills on time	☐	☐
b	Could not pay the mortgage or rent on time	☐	☐
c	Pawned or sold something	☐	☐
d	Went without meals	☐	☐
e	Was unable to heat home	☐	☐
f	Asked for financial help from friends or family	☐	☐
g	Asked for help from welfare / community organisations	☐	☐

S/No. ☐

C3a Suppose you had only one week to raise $3000 for an emergency. Which of the following best describes how hard it would be for you to get that money? *(Cross ☒ ONE box)*

- ☐ I could easily raise the money ➡ Go to C3b
- ☐ I could raise the money, but it would involve some sacrifices (e.g., reduced spending, selling a possession) ➡ Go to C3b
- ☐ I would have to do something drastic to raise the money (e.g., selling an important possession) ➡ Go to C3b
- ☐ I don't think I could raise the money ➡ Go to C4

C3b And how would you obtain that money?

(Cross ☒ ALL boxes that apply)

- ☐ Use savings
- ☐ Borrow from a relative who lives with you
- ☐ Borrow from a relative who lives elsewhere
- ☐ Borrow from a friend
- ☐ Borrow from a financial institution or use credit
- ☐ Sell an asset
- ☐ Use some other method to find the money

C4 Who makes the decisions about the following issues in your household? *(Cross ☒ ONE box on EACH line)*

		Always me	Usually me	Shared equally between partner & self	Usually my partner	Always my partner	Always / usually other person(s) in house	Shared equally among household members	Always / usually someone not living in house	Does not apply
a	Managing day-to-day spending and paying bills	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9
b	Making large household purchases (e.g., cars and major appliances)	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9
c	The number of hours you spend in paid work	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9
d	The number of hours your partner / spouse spends in paid work	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9
e	The way children are raised	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9
f	Social life and leisure activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9
g	Savings, investment and borrowing	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	▭ 9

C5 In planning your saving and spending, which of the following time periods is most important to you? *(Cross ☒ ONE box)*

- ☐ The next week
- ☐ The next few months
- ☐ The next year
- ☐ The next 2 to 4 years
- ☐ The next 5 to 10 years
- ☐ More than 10 years ahead

C6 Which of the following statements comes closest to describing your (and your family's) savings habits? *(Cross ☒ ONE box)*

- ☐ Don't save: usually spend more than income
- ☐ Don't save: usually spend about as much as income
- ☐ Save whatever is left over at the end of the month — no regular plan
- ☐ Spend regular income, save other income
- ☐ Save regularly by putting money aside each month

C7 The following statements are about attitudes concerning money and personal finances. Please indicate, by crossing one box on each line, how strongly you agree or disagree with each. The more you agree, the higher the number of the box you should cross. The more you disagree, the lower the number of the box you should cross.

(Please cross ☒ ONE box for EACH statement)

		Strongly disagree 1	2	3	4	5	6	Strongly agree 7
a	I feel confident about the financial decisions I make	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
b	I keep a close personal watch on my financial affairs	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
c	I make certain I understand the commitments I agree to in financial contracts	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
d	I set long-term financial goals and strive to achieve them	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
e	I am very organised when it comes to managing my money day to day	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
f	I always make sure I have money saved up for emergencies or unexpected expenses	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
g	I do a good job of balancing my spending and savings	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
h	I feel very comfortable dealing with banks and other financial institutions	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7
i	I am good at dealing with day-to-day financial matters	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7

S/No. ☐

C8a Which of the following statements comes closest to describing the amount of financial risk that you are willing to take with your spare cash? That is, cash used for savings or investment. *(Cross ☒ ONE box)*

- ☐ I take substantial financial risks expecting to earn substantial returns ➡ Go to C9
- ☐ I take above-average financial risks expecting to earn above-average returns ➡ Go to C9
- ☐ I take average financial risks expecting to earn average returns ➡ Go to C9
- ☐ I am not willing to take any financial risks ➡ Go to C9
- ☐ I never have any spare cash ➡ Go to C8b

C8b Assume you had some spare cash that could be used for savings or investment. Which of the following statements comes closest to describing the amount of financial risk that you would be willing to take with this money? *(Cross ☒ ONE box)*

- ☐ I would take substantial financial risks expecting to earn substantial returns
- ☐ I would take above-average financial risks expecting to earn above-average returns
- ☐ I would take average financial risks expecting to earn average returns
- ☐ I would not be willing to take any financial risks

HOUSEHOLD SPENDING

C9 Do you have any responsibility for the payment of household bills, such as electricity, gas, water and council rates? *(Cross ☒ ONE box)*

- ☐ Yes ➡ Please continue
- ☐ No ➡ Go to D1 on page 17

C10 For each type of expenditure below, write in your best estimate of the total amount spent on that item by all people in the household.

If you are unsure please make your best guess.
Do not include expenses associated with any businesses you may own.
DO NOT SHOW CENTS

Weekly Expenses *(Cross ☒ ONE box on EACH line)*

		Any expenditure? NO	YES	HOW MUCH PER WEEK? (on average)
a	**Groceries** *(Include food, cleaning products, pet food and personal care products. Do not include alcohol or tobacco.)*	☐	☐	➡ $ .00
b	**Alcohol** *(Include alcohol consumed with meals eaten out.)*	☐	☐	➡ $ .00
c	**Cigarettes and other tobacco products**	☐	☐	➡ $ .00
d	**Public transport and taxis**	☐	☐	➡ $ .00
e	**Meals eaten out** *(Include restaurants, take-away food, and bought lunches and snacks. Do not include alcohol.)*	☐	☐	➡ $ .00

DO NOT SHOW CENTS

Monthly Expenses

		Any expenditure? NO	YES	HOW MUCH PER MONTH? (on average)
f	**Motor vehicle fuel (petrol, diesel, LPG) and engine oil**	☐	☐	➡ $ .00
g	**Men's clothing and footwear**	☐	☐	➡ $ .00
h	**Women's clothing and footwear**	☐	☐	➡ $ .00
i	**Children's clothing and footwear**	☐	☐	➡ $ .00
j	**Telephone rent and calls, and internet charges** *(Include rent and charges on mobile phones)*	☐	☐	➡ $ .00

DO NOT SHOW CENTS

Annual Expenses

		Any expenditure? NO	YES	HOW MUCH IN THE LAST 12 MONTHS?
k	**Private health insurance**	☐	☐	➡ $ .00
l	**Other insurance (such as home and contents and motor vehicle insurance)**	☐	☐	➡ $ .00
m	**Fees paid to doctors, dentists, opticians, physiotherapists, chiropractors and any other health practitioner**	☐	☐	➡ $ .00
n	**Medicines, prescriptions and pharmaceuticals** *(Include alternative medicines.)*	☐	☐	➡ $ .00
o	**Electricity bills, gas bills and other heating fuel (such as firewood and heating oil)**	☐	☐	➡ $ .00
p	**Repairs, renovations and maintenance to your home**	☐	☐	➡ $ .00
q	**Motor vehicle repairs and maintenance** *(Include regular servicing.)*	☐	☐	➡ $ .00
r	**Education fees paid to schools, universities and other education providers** *(Include private tuition fees.)*	☐	☐	➡ $ .00

DO NOT SHOW CENTS

PART D: YOUR JOB AND THE WORKPLACE

D1 Are you currently in paid work? *(This includes anyone on paid leave or who is self-employed.)*

- ☐ Yes ➡ PLEASE GO TO D2 AND COMPLETE THE REST OF PART D
- ☐ No ➡ GO TO PART E ON PAGE 18

D2 The following statements are about your current (main) job. Please indicate, by crossing one box on each line, how strongly you agree or disagree with each. The more you agree, the higher the number of the box you should cross. The more you disagree, the lower the number of the box you should cross.

(Please cross ☒ ONE box for EACH statement)

		Strongly disagree 1	2	3	4	5	6	Strongly agree 7
a	My job is more stressful than I had ever imagined	☐	☐	☐	☐	☐	☐	☐
b	I fear that the amount of stress in my job will make me physically ill	☐	☐	☐	☐	☐	☐	☐
c	I get paid fairly for the things I do in my job	☐	☐	☐	☐	☐	☐	☐
d	I have a secure future in my job	☐	☐	☐	☐	☐	☐	☐
e	The company I work for will still be in business 5 years from now	☐	☐	☐	☐	☐	☐	☐
f	I worry about the future of my job	☐	☐	☐	☐	☐	☐	☐
g	My job is complex and difficult	☐	☐	☐	☐	☐	☐	☐
h	My job often requires me to learn new skills	☐	☐	☐	☐	☐	☐	☐
i	I use many of my skills and abilities in my current job	☐	☐	☐	☐	☐	☐	☐
j	I have a lot of freedom to decide how I do my own work	☐	☐	☐	☐	☐	☐	☐
k	I have a lot of say about what happens on my job	☐	☐	☐	☐	☐	☐	☐
l	I have a lot of freedom to decide when I do my work	☐	☐	☐	☐	☐	☐	☐
m	I have a lot of choice in deciding what I do at work	☐	☐	☐	☐	☐	☐	☐
n	My working times can be flexible	☐	☐	☐	☐	☐	☐	☐
o	I can decide when to take a break	☐	☐	☐	☐	☐	☐	☐
p	My job requires me to do the same things over and over again	☐	☐	☐	☐	☐	☐	☐
q	My job provides me with a variety of interesting things to do	☐	☐	☐	☐	☐	☐	☐
r	My job requires me to take initiative	☐	☐	☐	☐	☐	☐	☐
s	I have to work fast in my job	☐	☐	☐	☐	☐	☐	☐
t	I have to work very intensely in my job	☐	☐	☐	☐	☐	☐	☐
u	I don't have enough time to do everything in my job	☐	☐	☐	☐	☐	☐	☐

D3 Following is a list of conditions and entitlements that employers sometimes provide their employees. For each, please indicate whether you, or other employees working at a similar level to you at your workplace, would be able to use these if needed.

(Cross ☒ ONE box on EACH line)

		Yes	No	Don't know
a	Employer-funded paid maternity leave	☐	☐	▭
b	Employer-funded paid paternity leave	☐	☐	▭
c	Special leave for caring for family members	☐	☐	▭
d	Permanent part-time work	☐	☐	▭
e	Home-based work	☐	☐	▭
f	Flexible start and finish times	☐	☐	▭
g	Child care facilities or subsidised child care expenses	☐	☐	▭

PART E: PARENTING

E1 Do you have parenting responsibilities for any children aged 17 years or less?

- ☐ Yes ➡ PLEASE GO TO E2 AND COMPLETE THE REST OF PART E
- ☐ No ➡ GO TO PART F ON PAGE 20

E2 The following statements are about raising children. Thinking about the children aged 17 years or less that you have parenting responsibility for, please indicate, by crossing one box on each line, how strongly you agree or disagree with each statement. The more you agree, the higher the number of the box you should cross. The more you disagree, the lower the number of the box you should cross.

		Strongly disagree 1	2	3	4	5	6	Strongly agree 7
a	Being a parent is harder than I thought it would be	☐	☐	☐	☐	☐	☐	☐
b	I often feel tired, worn out, or exhausted from meeting the needs of my children	☐	☐	☐	☐	☐	☐	☐
c	I feel trapped by my responsibilities as a parent	☐	☐	☐	☐	☐	☐	☐
d	I find that taking care of my child/children is much more work than pleasure	☐	☐	☐	☐	☐	☐	☐

E3 Do you think you do your fair share of looking after the children?

(Cross ☒ ONE box)

- ☐ I do much more than my fair share
- ☐ I do a bit more than my fair share
- ☐ I do my fair share
- ☐ I do a bit less than my fair share
- ☐ I do much less than my fair share

S/No. ☐

This question is for parents who are in paid work.
If you are not in paid work, skip this question and ➡ **GO TO PART F ON PAGE 20**

E4 **The following statements are about combining work with family responsibilities. Please indicate, by crossing one box on each line, how strongly you agree or disagree with each. The more you agree, the higher the number of the box you should cross. The more you disagree, the lower the number of the box you should cross.**

(Please cross ☒ ONE box for EACH statement)

		Strongly disagree 1	2	3	4	5	6	Strongly agree 7
a	Having both work and family responsibilities makes me a more well-rounded person	☐	☐	☐	☐	☐	☐	☐
b	Having both work and family responsibilities gives my life more variety	☐	☐	☐	☐	☐	☐	☐
c	Managing work and family responsibilities as well as I do makes me feel competent	☐	☐	☐	☐	☐	☐	☐
d	Because of my family responsibilities, I have to turn down work activities or opportunities that I would prefer to take on	☐	☐	☐	☐	☐	☐	☐
e	Having both work and family responsibilities challenges me to be the best I can be	☐	☐	☐	☐	☐	☐	☐
f	Because of my family responsibilities, the time I spend working is less enjoyable and more pressured	☐	☐	☐	☐	☐	☐	☐
g	Because of the requirements of my job, I miss out on home or family activities that I would prefer to participate in	☐	☐	☐	☐	☐	☐	☐
h	Because of the requirements of my job, my family time is less enjoyable and more pressured	☐	☐	☐	☐	☐	☐	☐
i	Working makes me feel good about myself, which is good for my children	☐	☐	☐	☐	☐	☐	☐
j	My work has a positive effect on my children	☐	☐	☐	☐	☐	☐	☐
k	Working helps me to better appreciate the time I spend with my children	☐	☐	☐	☐	☐	☐	☐
l	The fact that I am working makes me a better parent	☐	☐	☐	☐	☐	☐	☐
m	I worry about what goes on with my children while I'm at work	☐	☐	☐	☐	☐	☐	☐
n	Working leaves me with too little time or energy to be the kind of parent I want to be	☐	☐	☐	☐	☐	☐	☐
o	Working causes me to miss out on some of the rewarding aspects of being a parent	☐	☐	☐	☐	☐	☐	☐
p	Thinking about the children interferes with my performance at work	☐	☐	☐	☐	☐	☐	☐

PART F:

F1 **What is your sex?** *(Cross ☒ ONE box)*

☐ Male ☐ Female ☐ Other *(please specify)* _____

F2 **Which age group do you belong to?** *(Cross ☒ ONE box)*

☐ 15 – 17 years	☐ 35 – 44 years
☐ 18 – 19 years	☐ 45 – 54 years
☐ 20 – 21 years	☐ 55 – 64 years
☐ 22 – 24 years	☐ 65 – 74 years
☐ 25 – 34 years	☐ 75 years or over

F3 **What is today's date?** day / month / year 2 0

F4 **Is there anything else that you would like to tell us about living in Australia?**

If so, please write on the lines below. (To ensure your privacy remains protected at all times, please do not write any personal contact details here such as your name, address or phone number.)

RETURNING YOUR COMPLETED QUESTIONNAIRE

Complete and return this questionnaire and you will have the chance to win 1 of 8 prizes (a $500 gift card). A prize draw will be held on: August 26, 2016; September 23, 2016; October 14, 2016; November 11, 2016; December 9, 2016; January 13, 2017; February 10, 2017 and March 17, 2017.
For prize draw terms and conditions, please go to www.livinginaustralia.org/scqprizedraw
NSW Permit number: LTPM/16/00551. ACT Permit number: ACT TP 16/01030.
When you complete and return this questionnaire you will automatically go into the prize draw.

If you do not wish to be entered into the prize draw, please cross ☐

Once again, Thank You for your cooperation and participation.

Roy Morgan Research

S/No. _____

Appendix C
Participant Information Letter & Consent

Study Title: Living to 85 years or older in xxxxx, Victoria

This is a research study about how older adults experience older age. This letter explains what the study is about and what your participation would involve. Naomi Paine is a PhD student at the Australian Catholic University. Naomi has many years of experience working with older people. Her picture is below:

Research studies include only people who choose to take part. Please take your time to make a decision about participating and discuss your decision with your family or friends if you wish. If you have any questions, you may ask Naomi Paine; or her University Supervisor Dr Tom Barnes (phone numbers are on the last page).

Who is being asked to participate?

People aged 85 years and older who live in xxxxx are being asked to participate.

Why is this study being done?

The purpose of this study is to learn more about how men and women experience old age and develop recommendations to better support people to age well in their local neighbourhood.

How many people will take part in this study?

About 12 people will take part in this study.

If you agree, the following steps will occur:

1. Naomi Paine will organise a private interview with you at a time and place that is convenient for you. Naomi Paine will ask you about your experiences of older age and living in your neighbourhood. This interview will last about 45 minutes.
2. Naomi Paine will make a sound recording of your conversation (with your permission)
3. After the interview, a researcher will type into a computer a transcription of what is on the recording. The researcher will remove any mention of names, and other identifying personal information to protect your confidentiality and anonymity. The sound recording will then be deleted.

How long will I be in the study?

The interview will take about 45 minutes.

What risks can I expect from being in the study?

1. Sometimes interview questions may make you worried or upset. You can refuse to answer any questions. You can also choose not to go ahead with the interview at any time.
2. If you become tired, you may end the interview, and with your permission a second interview will be scheduled at a time and place convenient for you.
3. Confidentiality: Every effort will be made to protect your privacy. What you tell Naomi in the interview will be treated privately and confidentially. However, because all participants will be aged 85 and older and live in xxxx, we cannot guarantee total privacy, as it is possible that someone may still identify you by your particular experiences, stories or point of view. Only Naomi Paine and her supervisors working on the research project will have access to your interview recording and notes. After the interview has been transcribed from the audiotape and the study is complete, the recording will be deleted. Your name, address or

other information that identifies you will never be used in any reports or publication that may result from this study. Any direct quotes will be referred to by pseudonym (fake name).

If we are extremely concerned about your safety or the safety of another person, we would have to break confidentially. We would need to notify other professionals (like your GP) about the threat to safety, so that they could protect you (or another person) from harm. We would always try to discuss a situation like this with you before contacting any other professionals.

Are there benefits to taking part in the study?

The information that you provide may help health workers, government and community organisations to better understand the experience of living to 85 years and older, and better support people to age well in their neighbourhood. You will also receive information from Naomi about services in the community that are available to support you.

Will I be paid for taking part in this study?

You will not be paid for taking part in this study.

What are my rights if I take part in this study?

Taking part in this study is your choice. You may choose either to take part or not to take part in the study. If you decide to take part, you may leave the study at any time, and any data you have contributed will be withdrawn from the study and destroyed. No matter what decision you make, there will be no penalty to you in any way. You will not lose any of your regular benefits, and you can still get care from any place the way you usually do.

Will the results be written up and published?

The information from your interview will be combined with information from other interviews. Results may be published in a professional or academic journal. However they will not contain any personal information. It is hoped that these

papers will help organisations to develop the kinds of services that older people would like.

Will I be able to find out the results of the project?

You will be posted a summary of the research findings if you want. You can check we have accurately interpreted and de-identified your comments.

Who do I contact if I have questions about the project?

If you have any questions, comments, or concerns about taking part in this study, first talk to Naomi Paine (phone: xxx). If for any reason you do not wish to do this, or you still have concerns after doing so, you may contact the Manager of the Human Research Ethics and Integrity Committee, care of the Office of the Deputy Vice Chancellor (Research). This is a group of people who review the research to protect your rights.

The study has been reviewed and approved by the Human Research Ethics Committee at Australian Catholic University (review number 2018-280H). Their details are below:

Manager, Ethics and Integrity
c/o Office of the Deputy Vice Chancellor (Research)
Australian Catholic University
North Sydney Campus
PO Box 968
NORTH SYDNEY, NSW 2059
Ph.: 02 9739 2519
Fax: 02 9739 2870
Email: resethics.manager@acu.edu.au

Any complaint or concern will be treated in confidence and fully investigated. You will be informed of the outcome.

I want to participate! How do I sign up?

If you want to take part, please sign the consent form (attached). Naomi Paine will collect and discuss this with you when you make a time for the interview.

Yours sincerely,

Naomi Paine
PhD Student
Australian Catholic University
Phone: xxxx

Dr Tom Barnes
(Naomi's University Supervisor)
Australian Catholic University
Phone: xxxx

CONSENT FORM

Copy for Participant to Keep

TITLE OF PROJECT: Living to 85 years or older in East Reservoir, Victoria

APPLICATION NUMBER: ……(2018-280H)……

SUPERVISOR: Dr Tom Barnes ……

STUDENT RESEARCHER): Naomi Paine ……

I …… *(your name)* have read (*or, where appropriate, have had read to me)* and understood the information provided in the Participant information letter and this consent form. Any questions I asked have been answered. I understand what being in this research means to me.

I agree to participate in the project

I agree for the interview with myself and the researcher to be audio-recorded. The interview might last 45 minutes.

I know that it is OK for me to stop being in the research at any time, and any information about me will not be used in the research.

I agree that the information I give in the interview will be written in reports and articles and spoken about in meetings. I know that other people will not know that it is me.

NAME OF PARTICIPANT: ……

SIGNATURE: ……DATE:

SIGNATURE OF SUPERVISOR: …… DATE:

SIGNATURE OF STUDENT RESEARCHER: ……DATE:

Appendix D
Participant Information Letter – Door Knock

Dear (name of suburb) resident,

My name is Naomi Paine and I am a PhD student at the Australian Catholic University. I used to work at the Community Health Centre with older people. I really liked it and now I would like to learn more from older people. The name of my research is: Living to 85 years or older in (name of suburb), Victoria.

I knocked on your door today but maybe you weren't home or weren't able to answer. If you are 85 or older and want to take part in my research, it involves talking to me about yourself and your experiences. It might take about 30 minutes.

I will try knocking again the next time I visit - Wednesday 14th May . You are also welcome to call me on ph (03) 9230 8250 if you have any questions or my University Supervisor Tom Barnes (03) 9953 3931.

Thank you for reading this,

[redacted]

Naomi Paine
PhD Student
Australian Catholic University
Ph: (03) 9230 8250

Appendix E
Interview Schedule

INTERVIEW SCHEDULE: Living to 85 years or older in xxxx, Victoria

Table 1. Checklist: Research recap

Item	Description
Introduction	Thanks for agreeing to take part and being interviewed
Interview focus	I will ask you about living in (suburb), socialising and being 85 or older. I am doing this because I am a PhD student at the Australian Catholic University and interested in your experiences of living in the community
Timing	The interview may last 30-45 minutes. Please feel free to stop if required
Confidentiality	Your information will be well-protected, and anonymous
Recording	I will use audio-recording to enable transcription of this interview.
Uncomfortable or difficult questions	If you would prefer not to answer a question that is fine. If the question isn't clear and you want me to explain or ask it in a different way, please tell me - that is fine too. There is no right or wrong answer. I am interested in your thoughts and experiences.
Any questions	Do you have anything you would like to ask me before we start?

[Theme 1: Neighbourhood]

Q1. Please tell me about how you came to be living here?

Specific /direct questions

- How long have you been living in this unit?
- Did you live/work/socialize in xxx before moving here?
- What did you know about xxxx before moving here?
- Has the neighbourhood changed … How's it changed?.. Why do you think it has changed?

Q2. Do you like living here? Why/why not?

Q.3 And what about your neighbours .. can you tell me about your neighbours?

Specific /direct questions

- Do you know your neighbours?
- Do you feel safe in your neighbourhood?
- Can you trust your neighbours?
- Does anyone around here help you out?

Q4. What could be done, if anything, to make you like living here more?

Q5. Is there anything that prevents you from feeling like you belong in your neighbourhood?

[Theme 2: Social Relationships]

I'd like to move on to a new topic now. It's about social relationships and talking to people

Q6. Who are the most important people in your life and why?

- Companionship/quality of relationship

Q7. How has life been- living on your own?

Q8. Can you tell me a bit about your social life?

- Plans that involve meeting or catching-up with people? (How often and what? regular social groups, visitors),
- Do you enjoy meeting with that person/ doing that activity, or is it a strain on you?
- Do you want more company?

  If yes… What would make it easier for you to interact with/talk with more people?

  ….. Are there any factors that prevent/restrict you from interacting with people? (i.e. $, time, caring responsibilities, no transport, health, safety concerns, prefer own company)

Q9. Can you tell me about any places you like to go to?

Q.9 Are there any places you would like to go to that you currently don't?

Q.10a) Are there any reasons that prevent you from going out more?
b) What would make it easier for you to go out more?

[Theme 3: ageing and exclusion]*I'd like to move on to a new topic and ask you about what life is like at your age*

Q11. What's important for you in your older age?

Q12. What worries you the most about ageing?

Q13. As part of my research I've been reading about social exclusion. Social exclusion refers to feeling left out or missing out on things other people have. It is said that as people age they become more excluded or left out.
What do you think about that?
Do you have any experience of feeling left out?

- services,
- relationships with family and social groups
- feel respected /valued..

[CLOSURE questions]
Q14. Can you tell me one of the most valuable or satisfying moments you have had recently?

Q15. Is there anything else you'd like to tell me about your life? Do you have any questions for me?

It has been really great talking to you – thank-you so much for your time. This interview will be typed up and summarised. If you like I can send you a copy of my overall research findings so you can see how your information has been summarised and kept anonymous. Your thoughts and insights have been really helpful and I think they will add a lot to knowledge about what it is like being a person from your generation. Thanks again. I enjoyed talking with you.